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SAUNDERS

Bulletin

CONVENTION NOTE

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RELATION OF INTERNISTS TO MILITARY MEDICINE *

WALTER L. BIERRING, M.D.

DES MOINES, IOWA

It has been a traditional custom in the medical departments of the Army and Navy to regard the medical officers as surgeons, the director of each department being referred to as the Surgeon-General. There is but one instance in the history of the medical corps of the Army in which reference is made to a different title, the occasion being the appointment of Dr. William Brown as physician general of the middle department. Dr. Brown served from 1775 to 1780.

In the field of preventive medicine, bacteriology and sanitation, the federal medical services have a brilliant record of achievement, and many epochal contributions to scientific medicine have been made by officers of the several medical corps.

During the Civil War, Surgeon-General Hammond, well known as a physiologist and neurologist, and founder of the Army Medical Museum, created special hospitals for cardiac, pulmonary and neural diseases, at one of which Da Costa first described the condition of irritable heart in soldiers. In the Spanish-American War no distinction was made of a medical division in either base or field hospitals.

It was not until the entrance of this country into the world war that internists became more intimately related to military medicine, and it is one of my purposes in this paper to record briefly the part taken by medical reserve officers, recognized as internists, and particularly by members of this section.

INTERNAL MEDICINE IN THE WAR

At the time when war was declared on Germany in April, 1917, there were twenty-nine Red Cross base hospitals ready for service, having been organized from the Medical Reserve Corps under the direction of Col. Jefferson R. Kean, M. C., U. S. Army. This number was rapidly increased until within a very short time fifty Army Red Cross hospitals were assigned for duty overseas. These base hospitals were largely representative of medical college faculty or hospital staff organizations in civil life. A medical service was an organic part of each, being in charge of a chief and usually two assistants, all well known internists. Later about ninety-four evacuation, field and mobile hospitals were organized, composed of a proportionately smaller personnel, each of which included a medical service as a part of the respective hospital.

Early in the organization of the office of the Surgeon-General of the Army, the importance of tuberculosis and cardiovascular disorders was recognized, particularly in the operation of the selective service regulations, as well as special examination of officers and men at the various military training camps.

A division of internal medicine was created under which the subdivisions for tuberculosis and cardiovascular and gastro-intestinal diseases were included. The efficient organization of this new division was due in a large measure to the experience and foresight of the first chief, Col. Theodore C. Janeway; and his untimely death in the line of duty is one of the tragic incidents of this war. The high standards set by Colonel Janeway were ably maintained by his successor, Col. W. T. Longcope, until his assignment to foreign service, when he was succeeded by Col. Lewis A. Conner, who served until the close of the war.

As the large base hospitals were established in connection with the National Army and National Guard cantonments throughout the country in 1917, the selection of chiefs and assistant personnel for the respective medical services involved a responsibility of the highest degree, and it must have been a distinct comfort to all concerned with the health and welfare of the new army to recognize the character and standing of the internists assigned to the different stations. In a number of instances the chiefs of medical services later became the commanding officers of the Army hospitals to which they had been originally assigned.

It was the evident policy of the department to retain the regular medical corps officers in charge only long enough to permit the medical reserve officers the opportunity to become familiar with the military organization, after which the responsibility was promptly transferred to them.

VALUABLE EXPERIENCES

The readiness with which the medical reserve officer adapted himself to the new environment was remarkable. The internist in civil practice was considered fortunate if he had supervision of a service of from fifty to a hundred beds. To be suddenly called on to assume charge of a medical service in a military hospital comprising from 1,400 to 1,800 beds, and during the influenza epidemic as high a number as 4,700 beds, required the exposition of rare tact, judgment and organizing ability. The fact that it was so successfully accomplished reflects great credit on the Medical Reserve Corps.

The opportunities offered for observing large numbers of cases of a particular disease were unique. Attention need only be directed to some of the papers presented at the 1918 session and those offered for this meeting. Reports on from 600 to 800 cases of pneumonia, 350 cases of pericarditis, 280 instances of

* Chairman's address, read before the Section on Practice of Medicine at the Seventieth Annual Session of the American Medical Association, Atlantic City, N. J., June, 1919.

acute meningitis, 400 cases of arthritis, and 360 cases of epidemic parotitis, occurring in a single medical service indicate the unusual responsibilities entailed and represent a condition not likely ever to occur again.

It will no doubt be appreciated that the environment of the sick soldier as compared with the patient in civil life offered several new factors to be considered; nevertheless the accumulated records of careful observers will constitute a valuable addition to our knowledge of the particular diseases concerned.

It may be premature to indicate the gain to medical science through the experiences of military service; but even at this time it will be admitted that we have approached a little nearer to the control of respiratory infections; that attention has been more prominently directed to the extrameningeal manifestations of the meningococcus, and that a better understanding has been obtained of nephritis in the young, functional cardiac disorders, the effort syndrome and its importance as a problem in civil life, the result of inhaling poisonous gases, and the transmission and control of trench fever. The effect produced on diabetes among peoples affected principally by sugar restriction is one of the interesting revelations of the war period.

After the military hospital service was thoroughly organized, the medical officer lived under ideal conditions for the practice of medicine. Free from the embarrassment of professional competition and the financial cares of civil practice, he lived in congenial association with medical officers in charge of the surgical, roentgen ray and pathologic services, permitting daily conferences and a coordination of work contributing to the best in the diagnosis and the care of the sick.

As the medical officer, and particularly the internist, returns to civil life, it will be natural and very probable that he will wish to continue similar clinical associations at home, and thus gradually lead to a more general formation of groups of consulting specialists, a plan in keeping with the trend of modern medicine that promises much for professional development and the welfare of the public.

The purpose of group consultants in the American Expeditionary Forces will be considered at this session, and the advantages of this feature of the service more prominently presented.

The true function of the internist is exerted in the direction of higher attainments in diagnosis, and the degree to which military medicine was advanced in that respect may be a proper measure of the wisdom of establishing a special division of internal medicine.

MEDICAL TEACHING

In round numbers, about 150 military hospitals of the different types were established during this country's participation in the war. The fact that the department had great difficulty in finding a sufficient number of medical officers for the services in internal medicine is a commentary on the incompleteness of preparation among medical men for this special work.

In a study of the graduates of a leading medical school affecting the classes of 1915, 1916 and 1917 as to the preference expressed in the applications for commissions in the Reserve Corps, it was noted that a relatively small percentage chose the service in internal medicine; but on further investigation it was found that these usually represented the best students in the respective classes.

We are not specially concerned here with medical education as related to military conditions, recently so ably discussed by Munson and others,[1] except so far as the experiences in the services of internal medicine furnished the reason for this discussion.

The demonstrable use of examination methods, the proper interpretation of physical signs, and the ability to form diagnostic conclusions constituted the criteria of efficiency in this branch of the military service. It was in many instances the real index of the previous training of the medical officer.

Nevertheless it reflects great credit on the medical resources of this country that it was possible in one brief year to develop the School of Military Medicine at Fort Oglethorpe, where in October, 1918, 3,000 medical officers and 30,000 medical corps men were being trained.

That it was possible by short courses of intensive instruction to remedy some of the defects in medical training recognized in the general practitioner on admission to military service was probably due to the fine cooperative spirit and ideal conditions for teaching that prevailed in the military medical school. That it could so readily be done was indicative, at least, of a good fundamental education.

If the experience of medical teaching in the war has directed attention to an improvement in the scheme of education for the better practice of medicine, it will have offset in part the great sacrifices it has otherwise entailed.

INTERNISTS IN THE NAVY

It is fitting at this time to make reference to the internists afloat. At the beginning of the war the Medical Department of the Navy recognized the great need of internists, particularly in the large base hospitals in the naval training stations. Reserve officers were placed in charge of the different services of internal medicine, having supervision also of the clinical laboratory; and as rapidly as possible a similar plan was carried out on all ship hospitals and base hospitals overseas.

As the internists in the Naval Reserve are gradually being returned to civil life, Surgeon-General Braisted has endeavored to meet the occasion by requiring of medical officers of the Navy attendance at the Navy Medical School for a three months' course each in the branches of surgery, laboratory and clinical diagnosis, and the head specialties to determine fitness for special service, indicating that the new departure inaugurated during the war is to be continued.

The entire transport service was in charge of the Navy, and the completeness with which old vessels were transformed into hospital ships with every equipment for the care of sick soldiers and sailors testified to the initiative and organizing ability of the Navy Medical Corps. When the story is fully told of the devotion and sacrifice of medical officers in connection with influenza epidemics aboard ships, it will constitute one of the heroic chapters of the war.

DISTINGUISHED SERVICES

It is not possible at this time to recall the many examples of heroism displayed by the medical reserve officers; but there is a source of pride in directing attention to a few instances, and furthermore to the

1. Munson, E. L.: The Needs of Medical Education as Revealed by the War, J. A. M. A. **72**: 1050 (April 12) 1919. Vaughan, V. C.: Correspondence Department, ibid., p. 1095. Foster, N. B.: Medical Education as Revealed by the War, ibid. **72**: 1540 (May 24) 1919.

manner in which the medical officer measured up to the demands of entirely new duties.

Reference has been made to the assignment of internists as commanding officers of cantonment base hospitals in this country, and evacuating hospitals in the American Expeditionary Forces, indicating that they had recognized administrative ability. The medical officers, among whom were several well-known internists who received the Croix de Guerre, form a large list.

It is quite impossible to estimate in any appreciative sense the service to the country of Colonel Billings in establishing the division for the rehabilitation of the disabled soldier and sailor.

In investing Brigadier-General Thayer with the Distinguished Service Medal, the citation read:

> As chief consultant in medicine of the A. E. F. it was largely through his individual efforts that the treatment of the sick was so standardized, coordinated, and proficiently perfected as to result in a direct saving of many lives and a consequent conservation of man power and morale of these forces.

One of the contributors to the war unit program of this section applied for active service, April 6, 1917, and went to France with the Second Division. In civil life he is associated with one of the prominent medical clinics of the country. With practically no surgical training, his entire military service was concerned with the charge of stretcher bearers and dressing stations at the front.

In regard to Capt. M. C. Pincoffs, the Division Surgeon, Lieut.-Col. Richard Derby reports that:

> His services have been of a high order of excellence. He possesses great initiative, and has performed every duty required of him with vigor and thoroughness. He has maintained excellent discipline and morale among his subordinates. He has time and again demonstrated his utter fearlessness and disregard of personal safety in the various engagements in which the Second Division has participated, as evidenced by his having been recommended for the Distinguished Service Cross, the Medal of Honor, and the Croix de Guerre.

As an example of versatility of talent I would like to refer to a member of the section who in civil life is chief of a department of medicine in a large university medical school, and was inducted into active service a few days after contributing a paper on pericarditis at the 1917 session in New York. During a military service of twenty-one months he probably did not make a single heart or lung examination because his activities were directed in an entirely different direction. He became the chief of the school for sanitary instruction at the Fort Riley medical officers' training camp, and when the military medical training was later concentrated at Fort Oglethorpe, he was assigned to a similar service there. He developed an open air school of military hygiene including every form of apparatus and equipment for demonstration, which permitted every student officer to gain a comprehensive knowledge of the subject in a short period of time. One of his distinct contributions was an incinerator capable of disposing of 10 tons of garbage with a minimum of expense, which has been adopted by the Medical Department of the Army. By reason of his training as a clinician, Colonel Williamson was able to direct the instruction in sanitary medicine, of particular value to the military service and of incalculable benefit to the thousands of medical officers that came under his charge and their future usefulness in civil practice.

When the medical history of this war is written, the record of the internist will indicate an important part in the efficient accomplishments of the several medical services during the great conflict.

Equitable Building.

THE EARLY ROENTGEN DIAGNOSIS OF ULCERATIVE TUBERCULOUS COLITIS

LAWRASON BROWN, M.D.
AND
HOMER L. SAMPSON
TRUDEAU, N. Y.

Some years ago, it occurred to us that the reason tuberculous enteritis was so generally fatal was the fact that it was impossible by any medical means to give the intestine sufficient functional rest to enable it to resist and possibly to recover from its tuberculous lesions. Archibald[1] has shown what may be accomplished by proper surgical measures in carefully selected cases. For these reasons it has seemed to us wise to emphasize certain data, not particularly new, but certainly very little known, which may suggest the presence of tuberculosis of the large intestine, and thus aid in its early diagnosis. We shall not attempt to discuss the treatment of this condition, but refer those who are interested to Archibald's former article and to his forthcoming monograph on this subject. It might be added, however, that for surgical interference to be of any help, the diagnosis must be made in many instances long before symptoms, now considered characteristic of the disease, make their appearance. We refer to chronic, persistent diarrhea and abdominal pain, tenderness and rigidity.

The reluctance of many gastro-intestinal specialists to make an early diagnosis of intestinal tuberculosis emphasizes the importance of the procedure we shall discuss. Recently a patient with moderately advanced pulmonary tuberculosis saw, on his way back to Saranac Lake, a prominent specialist, who stated to him and confirmed it in a letter to us, that "no evidence of intestinal tuberculosis was demonstrated" in the patient. The patient had also seen, about the same time, a pulmonary specialist, who had apparently overlooked his intestinal tuberculosis, and stated that his lungs should improve as soon as his indigestion was relieved. At that time the patient had all the symptoms characteristic of intestinal tuberculosis, and we had suspected intestinal tuberculosis eight months previously, owing to the presence of constipation and irregular fever, and had confirmed the diagnosis by roentgenologic study.

CLINICAL DIAGNOSIS

The position of intestinal tuberculosis in the minds of many specialists today is similar to that occupied by pulmonary tuberculosis fifteen or twenty years ago. At that time, many refused to make a diagnosis of pulmonary tuberculosis without finding tubercle bacilli in the sputum, and the struggle to overcome this reluctance was long and hard. At the beginning of this century the presence in a patient with advanced pulmonary tuberculosis of chronic diarrhea, of more or less pain, of tender points in the abdomen, and

1. Archibald: Tr. Nat. Assn. for Study and Prevention of Tuberculosis, **13**: 117, 1917.

nothing suggestive of an acute abdominal condition, led to the diagnosis of intestinal tuberculosis and a uniformly fatal prognosis. In a few instances, patients placed on treatment, for example, small doses of creosote and iodoform, lost their abdominal symptoms, which did not recur up to the time of death. Such cases were regarded by conservative thinkers as probable mistakes in diagnosis.

Fig. 1.—Normal plate, six hours, prone; average motility. Note well filled ascending colon and first half of transverse colon, with smooth haustration.

Fig. 2.—Same case as Figure 1. Twenty-four hours, prone; average motility. Bowel well filled, smooth haustration.

At this time, the occurrence of tubercle bacilli in the stools was considered proof positive of the presence of intestinal tuberculosis. Lichtheim[2] in 1883 was the first, it may be recalled, to demonstrate tubercle bacilli in the stools, but said that they occurred only in patients with intestinal lesions and not in those who swallowed their sputum. Bodo,[3] as early as 1891, examined the intestinal contents of patients who had died of pulmonary tuberculosis, and as he found tubercle bacilli when there was no tuberculous enteritis, he came to the conclusion that the presence of tubercle bacilli in the stools was no sure proof of tuberculosis in the intestine. We can, nevertheless, recall the amount of time which some of our confrères spent in searching for tubercle bacilli in the feces in order to confirm a diagnosis of intestinal tuberculosis. Again, Rosenthal, Strasburger and Schmidt elaborated special technics for the examination of the feces for tubercle bacilli. Some years later several observers, Philip and Porter,[4] Laird and Kite,[5] Petroff,[6] Engleson,[7] and Klose,[8] made routine examinations of the stools of patients with pulmonary tuberculosis and arrived at the conclusion that from 75 to 95 per cent. of all patients with tubercle bacilli in the sputum had them in the stools as well. These observations were controlled by animal inoculation. Later Petroff developed a technic which enabled him as the first to cultivate tubercle bacilli from the stools, and in some instances in which they had not been previously discovered by staining methods.

Walsh,[9] in 1909, from his clinical and necropsy studies at the Phipps Institute, came to these conclusions:

> Diarrhea, abdominal pain, tenderness and rigidity mean very little or nothing in the diagnosis of intestinal tuberculosis. . . . The diagnosis of intestinal tuberculosis cannot be made with the slightest degree of certainty from our present known symptoms, and since the condition carries with it an unfavorable prognosis, in order to reassure the patient, the nurse and the physician himself, the diagnosis should not be made, so that the patient will have a better chance for hopeful treatment.

These observations, of course, threw great doubt on the early, and, in fact, on any diagnosis of intestinal tuberculosis, and made newer methods most desirable.

It seems hardly necessary to dwell on the frequency with which intestinal tuberculosis occurs in the late and terminal stages of pulmonary tuberculosis, in which involvement of the intestine ranks next to that of the lung. The necropsy figures show an incidence of intestinal tuberculosis varying from 60 to 80 per cent., and such frequency itself suggests that the complicating enteritis and colitis may have much to do with the fatal outcome. It is only a step to conclude that in some instances removal of the early intestinal lesions might prolong life or even help to bring about recovery, for, while tuberculous intestinal ulcers may heal, such healing is, so far as we know, infrequent.

Fig. 3 (Case 7875).—Six hours, prone. Note ileac stasis, no barium shadows having reached the cecum. There are questionable faint traces of barium in the descending colon. Patient was referred for pulmonary tuberculosis, far advanced. Emaciation, persistent diarrhea and abdominal pain were the symptoms. Site of roentgen-ray lesion; diagnosis of tuberculous colitis (site not determined) made on ileac stasis at six hour examination, plus practically complete absence of barium shadows at twenty-four hours. Death occurred a few months after diagnosis of tuberculous colitis was made.

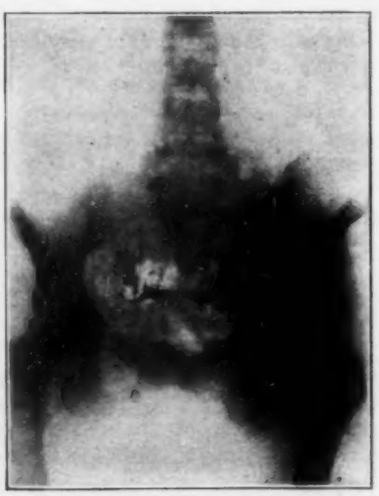

Fig. 4 (Case 7875).—Same case as Figure 3. Twenty-four hours prone, marked hypermotility.

2. Lichtheim: Fortschr. d. Med., 1883, p. 8.
3. Bodo: Gazz. med. di Torino, 1891, p. 793.
4. Philip and Porter: Brit. M. J. **2**: 184, 1910.
5. Laird and Kite: J. M. Res. **29**: 31, 1913.
6. Petroff: Personal communication to the author.
7. Engleson: Beitr. z. Kennt. d. Tuberk. **35**: 37, 1915.
8. Klose: München. med. Wchnschr. **57**:133, 1910.
9. Walsh: New York M. J. **90**:100, 1909.

SYMPTOMS

We have stated that the clinical symptoms positive of intestinal ulceration often occur so late in the course of the disease that a speedy termination of the case can be confidently expected. On the other hand, extensive ulceration may be found at necropsy with no symptoms occurring during life. Such symptoms, then, may be of little value if remedial measures, especially of a surgical nature, are to be applied. We feel that when any patient, even in an incipient stage, begins to do poorly, and shows no increase of pulmonary symptoms or signs, or, what is even more significant, a lessening of signs and symptoms referable to the lungs, intestinal complications should be borne in mind. Further, if under these circumstances the patient exhibits extreme nervousness, constipation, slight dyspepsia, a feeling of fulness or discomfort in the abdomen after eating, in all probability accompanied by gas, so frequent in all patients undergoing treatment for pulmonary tuberculosis, or fails to gain weight under suitable conditions, the probability of intestinal complications is strengthened. These symptoms may be accompanied at times by a very slight and brief attack or by attacks of diarrhea, readily amenable to simple remedies. A slight, irregular rise of temperature may or may not be present.

As the disease progresses, the symptoms increase and depend on the location of the ulcers, the irritation of the nerves, the involvement of the peritoneum, and, of course, the effects of the ulceration on the intestinal contents (blood and pus).

In some instances, the patient complains that he does not feel well; his digestion is neither good nor bad, and he may have a slightly irregular temperature: often normal, but at times reaching 99.6 in the afternoon. In one such case, a slight thickening of the cecum and ascending colon was palpated, and at operation tuberculosis of the cecum and ascending colon was found and resected with good results.

In another case, with incipient pulmonary lesions, marked constipation was accompanied, at times, by persistent vomiting or regurgitation of food. A palpable cecum suggested intestinal tuberculosis, which was confirmed roentgenologically and by operation, with recovery as the result.

The point that we would like to emphasize at this time is that at the onset the symptoms of intestinal tuberculosis may be as slight and as indefinite as those of early pulmonary tuberculosis. In fact, the term "latent" might well be applied to many cases of intestinal tuberculosis, for, unless borne in mind and looked for, they escape detection.

PAIN

Severe pain is not an early symptom. At first, only slight discomfort is noticed. A little later, pain, just below the epigastrium, occurs at irregular intervals, often late in the morning or in the afternoon, and is at first transient, later, more often persisting, crampy or stabbing in character (suggesting gas), aggravated by food, relieved by fasting and recurring from day to day (Archibald). Sharp and, later, lancinating pains may follow a glass of cold milk or even cold water.

DIARRHEA AND STOOLS

At the onset, the stools may be mushy and occur once or twice at night. Again, some have only one loose stool a day, accompanied at times by tenesmus or griping. In some instances, the first manifestation is the disappearance of the previous constipation, and the patient remarks that his "bowels are better" because they move now without drugs. The diarrhea at first may be so transient and so easily remediable as to attract no attention. Later the attacks occur more frequently and are more severe. But diarrhea, even lasting for six to eight weeks in a patient with pulmonary tuberculosis, may be due to other causes than intestinal tuberculosis. Among those may be mentioned the irritation of swallowed sputum. Lebert says that diarrhea without ulceration occurs in from one tenth to one seventh of all cases coming to necropsy. As the disease advances farther, the diarrhea, no longer temporary and alternating with marked constipation, becomes more stubborn and persistent. It has long been felt that the discrepancy between symptoms in life, for example, diarrhea and the postmortem findings, are due to the location of the lesions. Diarrhea is rarely persistent until the disease has extended along the large intestine to the transverse colon, and even then constipation may be rather marked and persistent. If diarrhea is persistent, it is probable then that the disease has reached the transverse colon, though this may be involved without persistently loose bowels.

Fig. 5 (Case 5058).—Six hours, prone. Head of the barium column is seen in rectum. Note absence of barium shadows in the ascending colon. Patient was referred for pulmonary tuberculosis. There were definite periodic abdominal symptoms with pain. Site of roentgen-ray lesion: cecum and cecocolon. No operation was done. Twenty-four hour plate showed bowel entirely empty.

Fig. 6 (Case 5058).—Same case as Figure 5. Enema plate, prone. Note filling defect in cecum and cecocolon and questionably in middle of transverse colon.

We would like to draw attention to the fact that the "constipation" complained of by some patients may be due to some abnormal abdominal sensation attributed by them to constipation, which, in reality, is not present. It is of interest to note that constipation and diarrhea may alternate to the end of life. The odor of the stools is usually fetid and penetrating, even suggesting, to an experienced observer, the presence of tuberculous enteritis. Intestinal hemorrage is rare, but at times has led to a fatal termination. It is of slight

diagnostic value. Flatulence is very common, and "gas pains" are frequently described. The temperature may be at times more subnormal than usual. A slight rise is often present without any increase of physical signs or symptoms from the lungs. Some patients have marked mental depression and great and often unaccountable nervousness. Acute intestinal tuberculosis has been described with symptoms suggestive of acute endocarditis or sepsis. We have not encountered any such cases, and the acute cases seen by us are usually due to a tuberculous appendix. Intestinal tuberculosis is rare in acute tuberculosis. Several cases later shown to be intestinal tuberculosis have presented the blood picture of pernicious anemia. These conditions, however, are very unusual, and none occurred in the cases we are discussing.

jejunum, 28 per cent.; duodenum, 3.4 per cent.; ascending colon, 51.4 per cent.; descending colon, 21 per cent.; sigmoid, 13 per cent.; rectum, 14 per cent. (Fenwick and Dodwell).[10] Other observers have also clearly shown that the jejunum is not spared. The symptoms of involvement of the appendix may dominate the situation. They may occur in attacks, usually mild. Tenderness may persist, and a mass, of course, may be palpable. The ileocecal region is most often involved. The symptoms are those described, but later the pain and tenderness are often localized to the region, and some thickening may be obtained. If there is no cecal thickening and the usual symptoms occur, with constipation, the small intestine may be involved. Archibald, from whose observations we have drawn some of these statements, believes that alternating constipation and diarrhea indicate an involvement of both the large and the small bowel.

TABLE 1.—POSITIVE CASES*

Case	Pulmonary Condition	Roentgen Classification	Tubercle Bacilli	Duration of Illness in Months	Tuberculous Complications	General Condition	Six Hour Examination Barium Shadows							Twenty-Four Hour Examination Barium Shadows					Filling Defect Enema Plate	Abdominal Symptoms
							Il	Ce	HF	TC	DC	R	Spasm	Ce	HF	TC	DC	R		
4909	FA	3	+	24	.....	Fav.	+	Sl	..	..	..	..	Ce	0	0	0	+	+	.....	2, 5, 7
5045	FA	3	+	40	.....	Fav.	+	Sl	..	..	..	..	Ce	0	0	0	0	0	Ce-HF	7
6867	FA	...	+	60	.....	Fav.	0	Sl	+	+	+	..	Ce	†	..	..	..	..	0	
7102	I	2	0	3	.....	Unfav.	0	Sl	+	+	+	..	Ce	Sl	Sl	Sl	Sl	Sl	.....	3, 5, 6, 7, 8
7348	FA	3	+	30	.....	Unfav.	+	..	..	..	..	..	.....	0	0	0	Sl	Sl	.....	2 and 5 questionable, 7 and 8 persistent
7366	FA	...	+	30	Nephritis	Unfav.	+	Sl	..	..	..	..	Ce	†	..	..	..	..	.....	2, 3, 5, 7, 8 persistent
7514	FA	...	+	14	.....	Unfav.	+	Sl	+	+	+	..	Ce	0	0	0	Sl	+	.....	3 severe, 7
7521	MA	3	+	24	.....	Fav.	+	Sl	+	+	+	..	Ce	0	0	0	0	0	Ce ?	1, 3, 6
7549	FA	...	+	8	.....	Unfav.	+	+	0	+	+	..	HF	0	0	0	0	Sl	.....	1, 3, 4, 6, 7
7561	MA	...	—	12	Larynx	Unfav.	+	Sl	+	+	+	..	Ce	0	0	0	0	0	0	1 persistent
7607	FA	...	+	13	.....	Unfav.	Sl	+	0	0	0	+	Ce-TC	0	0	0	0	+	.....	1, 4
7724	FA	...	+	6	Elbow	Unfav.	+	+	+	0	0	+	TC	0	0	0	0	0	0	1 and 7 persistent, 3, 5, 8
7739	MA	3	+	10	.....	Fav.	+	?	..	..	..	..	Ce ?	0	0	0	0	+	0	1 and 6 alternately
7805	MA	...	+	14	.....	Unfav.	+	Sl	0	0	0	Sl	Ce	0	0	0	0	+	.....	1 and 6 alternately, 2, 3, 4, 5, 8
7900	I	3	+	24	.....	Fav.	+	+	0	0	+	..	Ce	0	Sl	0	0	+	0	1, 4, 7
7822	MA	...	0	18	.....	Unfav.	+	Sl	..	..	..	..	Ce	0	0	0	+	+	Ce	1, 2, 5, -3 severe
7875	FA	...	+	9	.....	Unfav.	+	..	..	..	..	..	.....	0	0	0	0	0	.....	1, 3
7901	FA	3	+	36	.....	Unfav.	+	Sl	..	..	..	..	Ce	0	0	0	0	0	Ce	1
8075	MA	2	+	9	.....	Fav.	+	+	+	+	+	..	Ce	Sl	Sl	0	0	Sl	Ce	1
8344	FA	3	+	6	Larynx	Unfav.	..	..	..	..	..	..	.....	0‡	0	0	0	+	Ce ?	6, 7
8503	MA	3	0	12	.....	Unfav.	+	+	..	..	..	..	Ce	+	+	0	0	+	.....	1, 3, 8, -7 severe
8873	I	3	0	14	Appendectomy	Fav.	+	+	Sl	Sl	+	..	Ce	0	0	0	0	+	Ce ?	1, 2, 3, 7, 8
7003	FA	3	+	36	.....	Fav.	+	+	+	+	+	..	Ce-TC	0	0	0	0	..	Ce-TC	1 and 6 alternately
7733	FA	3	+	36	Larynx, ear, rectal abscess	Unfav.	+	Sl	..	..	..	..	Ce	0	0	0	0	0	.....	1, 3, 4, 8
8985	MA	...	+	12	.....	Fav.	+	..	..	..	..	..	Ce	Sl	+	..	..	..	.....	3, 6, 8
5058	MA	3	+	10	.....	Fav.	+	+	+	+	+	..	Ce	0	0	0	0	0	Ce	1, 2, 3, 4, 8
9307	FA	3	+	..	.....	Fav.	+	0	+	0	+	+	Ce	0	0	0	0	0	.....	1, 4, -7 marked
5086	FA	3	+	7	.....	Fav.	0	0	0	0	+	+	.....	0	0	0	0	0	Ce ?	1, 2, 4, 8
4876	FA	3	+	5½	.....	Fav.	+	+	+	+	..	..	Ce	Sl	+	+	+	+	.....	4, 7
9508	FA	3	+	..	.....	Fav.	+	Sl	0	Sl	Sl	+	Ce-HF	0	0	0	0	0	.....	1, 2, 3, 5, 7

* Key to Characters, Numbers and Abbreviations: Pulmonary condition: N, negative; D, doubtful; I, incipient; MA, moderately advanced; FA, far advanced. Roentgen classification: Pb, peribronchial; 1, an area of parenchymatous infiltration including to the superior margin of the first chondrosternal junction on one or both sides, or, to the superior margin of the second chondrosternal junction on one side; 2, greater than 1; an area of parenchymatous infiltration including to the superior margin of the second chondrosternal junction on one or both sides or, to the superior margin of the third chondrosternal junction on one side; 3 includes anything greater than 2. Tubercle bacilli: +, positive; 0, negative; blanks, no records. Six and 24 hour examinations: Il, ileum; Ce, cecum; HF, hepatic flexure; TC, transverse colon; DC, descending colon; R, rectum; Sl, slight; +, barium present; 0, barium has passed this site; the blank spaces indicate the head of the barium column has not reached these sites. Abdominal symptoms: 1, diarrhea; 2, nausea; 3, pain; 4, indigestion; 5, vomiting; 6, constipation; 7, nervousness; 8, gas.

† No examination.

‡ Twelve hour examination

§ Eighteen hour examination.

ABDOMINAL EXAMINATION

In some instances, as we have said, abdominal examination may reveal some localized thickening; but this frequently may occur only late in the disease, and then is usually accompanied by localized tenderness. Ulceration of the cecum and colon may occur without thickening of the intestine. Tenderness more often occurs when the ileocecal region is involved; but tender points may occur elsewhere.

SITE OF THE LESION AND ITS DIAGNOSIS

The sites of the ulcerative lesions in 500 necropsies have been stated to be as follows: ileocecal region, 85 per cent. (confined to this region in about 10 per cent.);

LABORATORY DIAGNOSIS

Many laboratory tests have been devised, but none are pathognomonic of intestinal tuberculosis. The whole subject is in a state far from satisfactory.

1. *Tubercle Bacilli.*—Evidence has already been quoted to show that tubercle bacilli in the stools are of no value in the diagnosis of intestinal tuberculosis. They occur in from 90 to 98 per cent. of all patients with tubercle bacilli in the sputum, irrespective of the intestinal condition.

10. Fenwick and Dodwell: Lancet, July 16, 1892.

TABLE 2.—NEGATIVE CASES

Case	Pulmonary Condition	Roentgen Classification	Tubercle Bacilli	Duration of Illness in Months	Tuberculous Complications	General Condition	Six Hour Examination Barium Shadows							Twenty-Four Hour Examination Barium Shadows					Filling Defect Enema Plate	Abdominal Symptoms
							Il	Ce	HF	TC	DC	R	Spasm	Ce	HF	TC	DC	R		
4716	MA	1	+	18	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	..	.....	4
4743	MA	Pb	+	21	.....	Unfav.	+	+	+	..	..	..	0	+	+	+	+	..	.....	2, 5, 6, 7, 8
4768	MA	1	0	13	.....	Fav	+	+	+	+	..	..	0	+	+	+	+	..	.....	2, 4, 5, 6, 7
4773	MA	1	—	8½	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	..	.....	2, 4, 6, 7
4774	MA	Pb	—	48	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	..	.....	2, 5, 6, 7
4777	MA	Pb	+	42	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	..	.....	1, 3, 4
4785	MA	Pb	—	8	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	..	.....	6
4787	D	Pb	0	18	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	+	.....	1, 2, 4, 5, 7
4803	MA	1	—	10	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	..	.....	4, 6
4810	MA	2	+	12	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	..	.....	4, 6
4814	D	Pb	0	24	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	..	.....	4
4817	D	Pb	0	36	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	..	.....	2, 4, 6
4818	MA	1	0	9	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	+	.....	2, 4, 5
4783	MA	2	+	8	.....	Fav.	+	+	+	+	..	..	0	+	+	+	+	+	.....	2, 4, 6
4824	I	Pb	0	24	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	..	.....	4, 6
4827	MA	3	+	6	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	+	.....	2
4829	D	Pb	0	6	.....	Fav.	+	..	..	..	..	..	0	+	+	+	+	+	.....	2, 4, 6, 7
4839	MA	2	+	16	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	+	.....	4, 6
4846	MA	2	+	27	.....	Fav.	+	+	+	+	..	..	0	+	+	..	..	..	.....	2, 3, 5, 8
4852	MA	1	0	14	.....	Fav.	+	+	+	+	..	..	0	+	+	+	+	+	.....	2, 4, 5, 6
4878	MA	1	+	5½	.....	Fav.	+	+	+	+	..	..	0	+	+	+	+	+	.....	6
4887	MA	Pb	0	4	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	+	.....	2, 4, 6
4804	D	Pb	0	16	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	+	.....	2, 4, 5, 6
4905	N	Pb	0	65	.....	Fav.	+	+	+	+	+	..	0	+	+	+	+	+	.....	4
4895	MA	3	+	6	.....	Unfav.	+	+	+	..	..	..	0	+	+	+	+	+	.....	2, 5, 6
4907	MA	1	0	72	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	+	.....	2, 4, 5, 6, 7
4916	MA	Pb	—	6½	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	+	.....	
4920	MA	2	+	30	.....	Fav.	+	+	+	..	..	..	0	+	+	+	..	..	.....	4, 6, 8
4921	N	Pb	0	18	.....	Fav.	+	+	+	+	..	..	0	+	+	+	+	+	.....	2, 6, 7
4922	MA	2	0	20	.....	Fav.	+	+	+	+	..	..	0	+	+	+	+	+	.....	
4940	MA	1	0	10	.....	Fav.	+	+	+	..	..	..	0	+	+	..	..	..	.....	2, 4, 6
4942a	MA	2	+	19	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	+	.....	4, 6
4943	MA	2	+	4	.....	Unfav.	+	+	+	..	..	..	0	+	+	+	+	+	.....	2, 4
4953	MA	3	+	14	.....	Fav.	+	+	+	..	..	..	0	Sl	Sl	+	0	+	.....	
4978	MA	1	0	120	Addison ?	Unfav.	+	+	+	..	..	..	0	+	+	+	..	..	.....	2, 4, 6
4908	MA	2	+	4	.....	Fav.	Sl	+	+	+	..	..	0	+	+	0	0	+	.....	2, 3, 4, 5, 6
5007	MA	3	+	72	.....	Fav.	+	+	+	+	..	..	0	Sl	Sl	+	+	..	.....	4, 7
5024	I	Pb	0	72	.....	Fav.	+	+	+	+	..	..	0	+	+	+	0	0		
5042	MA	1	0	96	.....	Fav.	+	+	+	..	..	..	0	+	+	+	..	..	.....	2, 4, 6, 7
5080	I	1	+	12	.....	Unfav.	+	+	+	..	..	..	0	0	+	+	+			
7505	D	Pb	NS	48	.....	Fav.	Sl	+	+	..	..	..	0	Sl	+	+	0	0	.....	3, 6
7681	MA	2	+	11	.....	Fav.	+	+	+	..	..	..	0	+	+	+	+	+		
7770	N	?	0	1	.....	Fav.	Sl	+	+	Sl	Sl	..	0	Sl	+	Sl	0	+	.....	3
7977	I	2	NS	6	Epidid. ?	Fav.	+	+	+	..	..	..	0	+	+	+	+	+	.....	3
5037	MA	2	0	6	.....	Fav.	+	+	+	..	..	..	0	+	+	+	0	+	.....	2, 4, 5, 7
8526	I	2	0	14	.....	Fav.	+	+	+	+	..	..	0	+	+	+	0	+	.....	8
8551	MA	...	+	22	.....	Fav.	..	..	..	..	..	..	.....	+‖	+	+	+	+	0	1
8559	MA	2	+	42	.....	Fav.	+	+	+	+	..	..	0	+	+	+	+	+	0	3
8792	MA	1	+	8	.....	Fav.	+	+	+	..	..	..	0	+	+	0	0	+	.....	8
8913	MA	2	+	18	.....	Unfav.	+	+	+	+	+	Sl	0	..	..	..	..	..	.....	2, 5, 6
9088	MA	2	+	156	.....	Fav.	+	+	+	+	..	..	0	+	+	+	+	+	.....	1, 4
9207	I	...	0	60	.....	Unfav.	+	+	+	..	..	..	0	+	+	+	0	Sl	.....	8
9192	MA	3	+	6	.....	Fav.	+	+	+	..	..	..	0	+	+	+	Sl	..	.....	8
9141	I	...	+	96	.....	Fav.	+	+	+	+	..	..	0	+	+	+	+	+	.....	1, 2, 3, 8
9166	MA	...	+	120	.....	Fav.	+	+	+	+	+	..	0	+	+	+	+	+	.....	4, 7
9105	MA	2	..	120	Effusion	.....	+	+	+	+	..	..	0	Sl	Sl	0	0	+	.....	1, 2, 8
4822	MA	1	+	5½	.....	Fav.	+	+	+	+	..	..	0	+	+	+	+	+		
5065	MA	2	+	18	.....	.....	+	+	+	..	..	..	0	+	+	+	+	+	.....	4
9227	MA	2	+	84	.....	Fav.	+	+	+	+	..	..	0	+	+	+	+	+	.....	4, 8
9228	MA	2	+	24	.....	Fav.	+	+	+	+	..	..	0	+	+	+	+	+	.....	4, 6

TABLE 3.—DOUBTFUL CASES

Case	Pulmonary Condition	Roentgen Classification	Tubercle Bacilli	Duration of Illness in Months	Tuberculous Complications	General Condition	Six Hour Examination Barium Shadows							Twenty-Four Hour Examination Barium Shadows					Filling Defect Enema Plate	Abdominal Symptoms
							Il	Ce	HF	TC	DC	R	Spasm	Ce	HF	TC	DC	R		
4775	MA	3	+	30	.....	Fav.	+	+	+	..	..	..	.....	0	0	0	0	+	.....	1, 2, 3, 4, 5
4780	MA	3	+	54	.....	Fav.	+	+	+	..	..	..	.....	0	0	0	0	0	.....	6
4815	I	1	0	42	.....	Fav.	+	+	+	+	..	..	Ce ?	0	0	0	+	+	.....	4, 7
4881	MA	3	+	30	.....	Fav.	+	+	+	..	..	..	.....	+	+	+	+	+	Cecum	2, 3, 4, 6, 8
4902	MA	2	+	3	.....	Fav.	+	+	+	+	..	..	Ce ?	Sl	Sl	Sl	Sl	+	.....	2, 4, 5, 7
4908	MA	2	0	7	.....	Fav.	+	+	+	+	+	..	.....	0	0	0	+	+	.....	2, 3, 4
4948	MA	Pb	0	36	.....	Unfav.	+	+	+	..	..	..	.....	0	0	0	0	+	.....	2, 4
4955	MA	2	+	2	.....	Fav.	+	+	..	..	..	..	.....	0	0	0	0	+	.....	4, 6
5000	MA	3	+	24	.....	Fav.	+	+	+	+	..	..	.....	0	0	0	0	+	.....	4, 6, 7
7522	FA	...	+	36	Larynx	Unfav.	+	+	+	+	..	..	Ce ?	0	0	0	Sl	+	.....	1 and 6 alternately
7529	FA	3	..	60	Appendectomy	Unfav.	+	Sl	Sl	..	..	..	Ce ?	Sl	0	0	+	+	.....	1, 3, 4, 7, 8
7722	MA	3	+	18	Larynx	Fav.	+	+	+	+	..	..	.....	0	0	+	0	+	0	1
7863	MA	...	+	24	Larynx	Fav.	+	Sl	0	0	+	..	.....	+	+	+	0	Sl		
7877	FA	3	+	9	Larynx	Unfav.	+	..	..	..	..	..	.....	+	+	+				
8563	MA	3	+	42	.....	Fav.	..	..	..	..	..	..	Ce ?	+‡	+	+	0	+	0	1
4544	MA	Pb	+	10	Larynx	Fav.	0	+	+	+	..	..	Ce ?	Sl	+	+	+	+	.....	1, 3, 4
8942	MA	3	+	12	Otitis media	.....	+	+	+	+	Sl	..	.....	0	0	+	0	Sl	.....	8
9206	MA	3	+	18	.....	Fav.	+	+	+	+	..	..	Ce ?	0	+	+	+	0	.....	6, 8
9135	FA	3	0	12	.....	Unfav.	+	+	+	..	..	..	Ce ?	+	+	+	+	0	.....	3, 6
7493	FA	3	+	20	Larynx	Unfav.	+	Sl	..	..	..	..	.....	Sl	Sl	0	Sl	Sl	.....	2, 3, 8, 1 and 6 alternately
7923	MA	3	+	48	Nephritis	Unfav.	+	+	+	+	+	..	.....	Sl	+	+	0	0	Cecum	1, 3, 7, —8 marked

2. *Pus and Blood in Stools.*—The occurrence of either pus or blood in the stools points to intestinal ulceration, but both may be lacking and tuberculous intestinal ulcers may still be present. Blood should always be looked for after abstinence from meat for three days. Macroscopic blood is rare, though Kidd[11] and others have reported deaths from intestinal hemorrhage in intestinal tuberculosis.

3. *The Blood.*—The blood in rare instances may give a picture suggesting pernicious anemia, but usually the most characteristic finding is a leukocytosis, with a nearly normal relative count.

4. *Tuberculin.*—This may cause some increase of pain, but aids little in diagnosis.

5. *Urine.*—The urine may show a marked indican reaction.

It seems likely that either slight rise of temperature without increase of pulmonary symptoms, anorexia prolonged and marked, slight digestive disturbances, regurgitation or vomiting of food, nausea, slight abdominal discomfort or actual pain, constipation or slight diarrhea, or constipation alternating with diarrhea, should attract attention to the intestinal tract and suggest possibly tuberculous ulceration. It must always be borne in mind that the occurrence of several of these symptoms usually takes place only when the process is well marked. In fact, any patient with chronic pulmonary tuberculosis who fails to gain weight or to make satisfactory progress, no matter how slight the abdominal symptoms are, should be studied for latent tuberculous colitis. The frequency of such symptoms in the course of pulmonary tuberculosis is well recognized, and we hold that in the presence of such symptoms a diagnosis of intestinal tuberculosis cannot be made positively, except by roentgen study. It is possible that roentgenologic examination of the intestine may eventually become part of the routine work in many sanatoriums for pulmonry tuberculosis, and in every instance, no advanced case should be subjected to radical treatment until the intestinal tract is studied by this method.

Fig. 10 (Case 7521).—Six hours, prone. Note spastic ragged appearance of cecum and cecocolon. There was hypermotility; the head of the column was in the rectum. The patient was referred for pulmonary tuberculosis. There was hyperacidity and occasional vomiting, frequent regurgitation of food, marked constipation. Cecum palpable, possibly thickened. Site of roentgen-ray lesion, cecum and cecocolon, is indicated by lines. At operation, cecum and cecocolon were tuberculous. Operation was done with excision of diseased area. Condition, one year after operation, apparently complete recovery.

Fig. 8 (Case 7213).—Six hours, prone. Note spastic, ragged appearance of ascending and first portion of transverse bowel. There was hypermotility; the head of the column was in the sigmoid. The patient was referred for pulmonary tuberculosis. There was occasional diarrhea; the stools were foul, and there was slight abdominal discomfort. Site of roentgen-ray lesions in ascending and probably in first portion of transverse colon are indicated by lines. At operation, the ascending and the first half of the transverse colon were tuberculous. Appendectomy was performed. Condition twelve months after operation: There were no symptoms; the patient had gained 30 pounds. Twenty-four hour examination: bowel was entirely empty.

Fig. 9 (Case 7213).—Same case as Figure 8. Filling defect of the ascending colon and the ragged appearance of the first portion of the transverse colon (indicated by line).

ROENTGENOLOGIC EXAMINATION—PREVIOUS WORK

For some years, the medical profession has had at its beck and call a technic which discloses the variations in the motility and contour of the large intestine. It is rather curious that so few have made use of this procedure in the study of tuberculous colitis. So far as we are aware, the first to call attention in American literature to hypermotility of the cecum was Pirie, who, after carrying out work suggested by Archibald, wrote a paragraph in the article by Archibald already referred to. He states that in tuberculosis of the cecum he was never able to visualize the barium meal in the cecum and was greatly disappointed. By careful observations repeated at half hour intervals and continued for from four to twelve hours, he was able to show that the tuberculous cecum retained none of the barium meal which normally should have accumulated there. He based his conclusions on a study of about twelve of Archibald's twenty-seven cases.

It was quite natural that we should have undertaken the study of this method of early diagnosis, as so many suspicious cases came under our observation. After our work was nearly completed, we discovered that in 1911 Stierlin[12] of Basel studied six such cases, in which later operation was done by Wilms. In these cases the absence of barium or bismuth shadows at certain times in certain sites, when normally they should have been present, suggested hypermotility. Stierlin diagnosed on this fact the presence of ulceration of the large bowel at the site which threw no shadow. In six such cases of tuberculous colitis and in one of chronic nontuberculous ulceration, Stierlin's diagnosis was confirmed at operation.

11. Kidd: Allbott's System of Medicine, **5**: 216.

12. Stierlin: München. med. Wchnschr. **58**: 1231, 1911.

Several years ago, it occurred to us that the only treatment of tuberculous enteritis that promised much relief, or even suggested the possibility of cure, was surgical intervention, which led us eventually to discuss the subject with Archibald. For this reason, and because we have had an opportunity of seeing clinically and of studying roentgenographically some of the cases in which later operation was done by Archibald and by R. M. Brown, our interest in the subject has increased; especially is this true since we have been impressed with how little general medical practitioners and, for that matter, even specialists in tuberculosis, gastro-enterology, and roentgenology, know of the technic necessary to make a diagnosis of tuberculosis of the large intestine.

TECHNIC

The technic varies little from that used in most roentgen laboratories. The day before the examination the patient is requested to abstain from taking any laxative. At an appointed hour the next morning he is given a barium suspension on an empty stomach (formula: 1 tablespoonful of cocoa, 1 tablespoonful of sugar, 1 tablespoonful of flour, 4 ounces of barium, and milk to make 16 ounces). The examination during the ingestion of the meal has often been omitted, on account of the patient's condition. However, it is not usually of any importance in this work. Six hours after taking the meal, the patient is examined fluoroscopically and roentgenographically. This examination is important, as at this hour, one should visualize the cecum and probably the ascending colon. An examination every half hour for the next hour or two may be necessary in order to catch the cecum partially or wholly filled. When possible, the patient is examined at the end of eighteen hours, but always at twenty-four hours. The eighteen hour examination may make the twenty-four hour examination unnecessary. Plates are absolutely necessary at all examinations. A day or two later, the patient, having taken an ounce of castor oil eighteen hours before, returns for a barium enema. The enema is administered by low gravity pressure, from 10 to 12 inches, and the injection is observed fluoroscopically. When the enema is seen to have reached the cecum or, as in many cases, has passed through the ileocecal valve, it is stopped and a plate is made in the prone position.

NORMAL MOTILITY

For convenience, we may say that the normal stomach empties itself in from three to six hours. The head of the barium meal reaches the ileocecal valve in from one to three hours. The ileum empties itself in from five to nine hours. The cecum is seen in from two to four hours after the ingestion of a meal. Six hours after the meal has been taken, the head of the column is seen at the hepatic flexure or the splenic flexure. Complete evacuation of the meal takes place in from thirty-six to forty-eight hours. The cecum remains well or partially filled from the fourth to the thirty-sixth hour.

Fig. 10 (Case 7521).—Six hours, prone. There is a spastic, ragged appearance of the cecum. The patient was referred for pulmonary tuberculosis. Leukocyte count was 16,000. There was a persistent, slight increase of temperature and alternating constipation and diarrhea. The site of the roentgen-ray lesion is in the cecum (indicated by lines). Operation was refused. Later there was marked increase of all abdominal symptoms. Twenty-four hour examination showed a marked hypermotility.

Fig. 11 (Case 7541).—Six hours, prone. Note absence of barium shadows at hepatic flexure. Same manifestation is seen in a series of plates taken on different days. Note the filling defect in cecum. There was hypermotility; the head of the column was in the sigmoid. The patient was referred for pulmonary tuberculosis. There was marked abdominal discomfort and severe "constipation." Surgical diagnosis was appendicitis. The site of the roentgen-ray lesion was the hepatic flexure region (indicated by lines). At operation, tuberculosis of the hepatic flexure region was diagnosed. There was an adhesion across the cecum. Postoperative death resulted.

Fig. 12 (Case 7541).—Same case as Figure 11. Twenty-four hours, prone. There was hypermotility. The bowel was virtually empty.

PATHOLOGIC HYPERMOTILITY

The first rather marked variation in the foregoing order of things to attract our attention was the rapidity with which the barium passed through the large bowel. Complete evacuation often occurred in from twenty to twenty-four hours, although it is not unusual, in a certain number of cases, to find a small amount of barium still in the rectum at the end of this interval. In many cases (usually the more positive), in six hours the head of the column could be seen in the sigmoid and rectum, while at the same time there was a small retention in the stomach. In view of the fact that the patients manifesting this hypermotility had not taken any cathartic for thirty-six hours prior to the examination, this rapid progress through the large bowel needed explanation. On closer observation, it was noticed in many of the cases that apparently the cecum or cecocolon was the seat of this

definite hypermotility. A typical illustration is Case 7875. The six hour examination gave no trace of barium beyond the ileocecal valve; the terminal ileum was well filled. The nine hour examination disclosed faint traces of barium in the cecum and a fair amount around the hepatic flexure. This case would seem to indicate that the cecum and cecocolon refused to retain the material delivered to it and passed it along about as rapidly as it was received. In none of the cases later proved at operation to be tuberculous were we able to visualize a well-filled cecum or cecocolon, with the usual smooth haustral sacculations. It appeared as though the ulcerated portion of the bowel was unable to retain the usual amount of barium; or, indeed, it seemed to be completely emptied. In many of the positive and probable cases there was noticed a definite ileac stasis[13] at six hours with hypermotility in the cecum at subsequent examinations. Whether this apparent stasis was due to stricture, to spasm of the sphincter or to regurgitation, it is difficult to say. The last would seem to be very likely in many of the cases.

The question arose immediately: Could conditions other than ulceration of the cecum or of the ascending colon produce this rapid type of hypermotility with its peculiar attending features? A few control cases were examined after the administration of a cathartic (castor oil), and while there was an increase in rapidity of the passage of feces through the large bowel, the bowel did not present the same manifestations as are seen in those patients proved to have had tuberculous colitis. The former cases showed smooth haustration, and, while the contents moved along more rapidly than they did when not under the influence of the cathartic, a spastic or ragged contour was never visualized.

A few cases of acute or habitual diarrhea produced about the same manifestations as were observed in those in which cathartics were given. A study of an article by Jordan,[14] in which he illustrates a number of cases of colitis and diarrhea, fails to reveal any indication of the hypermotility observed in tuberculous colitis. From a study of the prints in articles by Imboden[15] and Spriggs,[16] it seems possible to exclude definitely disease of the appendix as the cause of these manifestations. George and Leonard,[17] in their book, apparently make no mention of such a picture as due to any other cause.

FILLING DEFECTS

The second, and probably the more important, manifestation observed was the spastic appearance of that portion of the bowel later proved to be involved, usually the cecum or cecocolon. The smooth haustral sacculations were absent and the bowel had a distinctly irregular and ragged appearance. In the positive cases the affected portions of the bowel were only partially filled. Under the fluoroscope, barium was seen to enter the diseased cecum; but a few minutes later it had passed on to the transverse colon. In some cases, while the abdomen was being palpated in the region of the ascending colon, the barium shadows were seen to move out of this portion of the bowel, even though no more barium had entered it, and vis a tergo could apparently be excluded. We have not been able to reproduce this particular manifestation in patients having apparently no tuberculous colitis.

STUDY OF BARIUM ENEMAS

In many of the cases we were unable to administer barium enemas, owing to the weakness of the patients, who, however, had usually a positive diagnosis. With the administration of the enema, in some cases, the barium was seen to move slowly, as a smooth mass, until it reached the suspected portion of the bowel, where it stopped. It was usually necessary to increase the gravity pressure in order to fill, in part, this portion of the bowel, which at times showed here and there irregular, stringlike barium shadows, extending from the main column of barium into the portion of bowel we were attempting to fill. These manifestations suggested that the suspected portion of the bowel was in a state of spasm or collapse, and refused to receive the barium enema. By manipulation, however, it could usually be filled fairly well. In many cases, nevertheless, the filling was only temporary, for this portion of the bowel apparently developed a contraction or spasm, and the barium column was seen to move distally rather rapidly. In a few instances the ascending and transverse portions of the colon were emptied completely, producing a dilatation of the distal colon. The plates taken at this time which were considered to give positive evidence showed a definite filling defect in one or more portions of the bowel, usually the cecum or the cecocolon. So far, we have been unable to discover any condition, apart from intestinal ulceration, which produced this picture.

ANALYSIS OF RESULTS

In all, examinations were made in 110 cases. Three cases (2.7 per cent.) were negative for pulmonary tuberculosis; six cases (5.4 per cent.) presented only suspected pulmonary tuberculosis; eleven cases (10 per cent.) exhibited incipient pulmonary tuberculosis; in sixty-eight cases moderately advanced pulmonary tuberculosis was present, and in twenty-two cases pulmonary tuberculosis was far advanced.

Among the negative and suspected or doubtful pulmonary cases there was no roentgenologic evidence of tuberculous colitis. In these groups, however, there were a few cases which showed a mild hypermotility.

Of the eleven incipient pulmonary cases, seven were negative; one gave doubtful roentgen findings; three gave positive findings. Of the last three cases, one was proved at operation; one patient died of pulmonary and intestinal tuberculosis(?); one patient is alive, and has not been operated on.

Of the sixty-eight moderately advanced pulmonary cases, forty-four were negative; fifteen, doubtful, and nine, positive. Of these nine, four were proved at operation, and five patients were not operated on.

Of the twenty-two far advanced pulmonary cases, none were negative; five were doubtful. Of these five, three patients were not operated on, and two are dead. Seventeen were positive. Of these seventeen, nine were verified at operation; three ended with death; five patients were not operated on.

In many of the foregoing cases the operative findings tallied very closely with the diagnosis as to site and extent. The remainder, however, revealed more extensive ulceration than the plates or screen indicated. This can be readily explained by the fact that the barium remained such a short time in the diseased areas, particularly in the transverse and descending

13. We considered ileac stasis present if, at the six hour examination, the following was observed: stomach seven-eighths or completely empty, ileum well filled, no barium having reached the cecum.
14. Jordan: Arch. Roentg. Ray **18**: 328, 1914.
15. Imboden: Am. J. Roentgenol. **2**: 582, 1915.
16. Spriggs: Lancet **1**: 91, 1919.
17. George and Leonard: The Roentgen Diagnosis of Surgical Lesions of the Gastro-Intestinal Tract, Boston, 1915.

colon, that it was mere guesswork when these portions of the bowel were under consideration to confirm or exclude tuberculous changes. Then again, the motility of this part of the bowel would in all probability have to be studied at different hours. The lack of haustration would depend largely on the character and quantity of the barium visualized.

Through the kindness of Drs. Robert M. Brown, R. C. Paterson, S. F. Blanchet and Charles C. Trembley, we have been enabled to study roentgenographically some of their cases. It is interesting to note that in this second set of similar cases, the results were identical with those mentioned above.

We have intentionally omitted from this article any mention of the diagnosis of tuberculosis of the small intestine. So far as we are aware, no one has yet been able to diagnose definitely tuberculosis of the small intestine. This should always be borne in mind in suggesting operative measures. We have at present the problem under study and hope to arrive at its solution.

A number of cases classified as doubtful, which presented, on clinical study, all the typical symptoms of intestinal tuberculosis, revealed at the roentgen examination a fairly marked tendency toward hypermotility, which was not sufficient, however, to enable us to regard it as a positive finding. Further, the cecum at the six hour examination (which usually extended over a period of at least fifteen to thirty minutes) never assumed its normal pouchlike appearance, but appeared more or less narrowed, or was distinctly incompletely filled, even though barium was seen distal to this site. The diameter of this portion of the bowel was apparently less than the diameter of the ascending and transverse portion. Normally, it may be recalled, the cecum is larger in diameter than any portion of the colon with the exception of the sigmoid and rectum. Furthermore, fluoroscopic examinations were necessary to confirm these data. The outline, while not typically ragged, did not reveal the smooth haustral sacculations normally seen. Finally, we would like to call attention to the fact that some of these cases were put in the doubtful group because we thought the plate might have been taken at a time when the characteristic appearance of the cecum was not present. Had we waited, a few minutes later we might have observed this portion of the bowel virtually empty. The enema plate, as a rule, with the possible exception that the cecal shadow was definitely narrower than the ascending colon, revealed no abnormalities. In a few of these cases operation has been done and they have been found tuberculous. Further, we would not like to assert that the absence of detectable hypermotility and filling defects absolutely excludes the possibility of tuberculous colitis. The presence of a beginning hypertrophic colonic tuberculosis may cause not only lack of emptying but even cecal retention at the end of twenty-four hours.

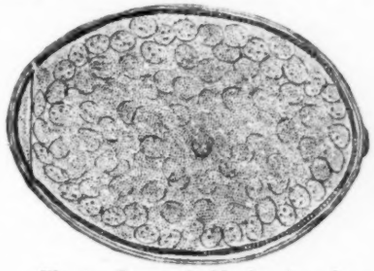

Fig. 1.—Camera lucida drawing of an egg of D. latum, in which may be noted the lid at one pole and the thickened nodule of the shell at the other; × 680.

CONCLUSIONS

1. Tuberculous colitis can be diagnosed clinically with a considerable degree of certainty when the disease is far advanced.

2. On the other hand, in the early or latent stages, when remedial measures may prove of avail, the clinical picture may be of little aid in diagnosis.

3. In all stages, certain shadows cast by the barium meal at the end of six, eighteen and twenty-four hours determine definitely the presence of colonic ulcerations, but the absence of such shadows does not absolutely exclude colonic ulcerations.

4. The roentgenologic picture shows hypermotility and spasm, or filling defects.

5. The presence of such a picture in a patient with pulmonary tuberculosis should lead to a definite diagnosis of colonic tuberculosis.

6. Tuberculous colitis occurs far more frequently than hitherto supposed, and must be excluded in all advanced cases and in any early case with any abdominal symptoms, before submitting the case to radical treatment.

7. No examination of a patient with pulmonary tuberculosis can be considered today complete without a roentgenologic study of the intestine.

THE EGGS OF DIPHYLLOBOTHRIUM LATUM *

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Since most diagnoses of parasitic worms depend on the identification of the egg of that species in the excreta or the blood of the patient, it is very important that data should be available for the identification of the various eggs of the different species encountered in man. Ward,[1] in 1903, called attention to the importance of the eggs of human parasites, and in 1908 stated[2] that "the very existence of marked variation (in the egg size) in the records of a single form is presumptive evidence that in the absence of errors of observation, two or more species are confused under the single appellation." The importance of the size of the egg as a diagnostic feature has been emphasized by many writers, and Looss gives the size of the egg as a specific character in trematodes. All textbooks on laboratory diagnosis give dogmatic measurements for the parasitic eggs, and very little can be found on the subject of variation in them.

Foster[3] has called attention to marked variations in the size of *Ascaris* eggs, both from man and from swine, while Cort[4] noted in *Pneumonoeces similiplexus* from the leopard frog very definite variations in the size of the eggs. He stated that the variation within this species was greater than that between two species within the same genus. I have many times noted the great difference in the size of eggs of parasitic worms as seen in smears of feces, and have undertaken to investigate more carefully the degree of variation to be found in a single species.

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* Diphyllobothrium latum is perhaaps more commonly known under the generic name of Dibothriocephalus or Bothriocephalus. On the law of priority, however, the name used here is the correct one. An intermediate host of this parasite is to be found among certain fishes, such as the perch and the pike.

1. Ward, H. B.: Data for the Determination of Human Entozoa
2. Ward, H. B.: Data for the Determination of Human Entozoa II, Tr. Am. Micr. Soc. **28**: 177-202, 1908.
Tr. Am. Micr. Soc. **24**: 103-138, 1903.
3. Foster, W. D.: Observations on the Eggs of Ascaris Lumbricoides, J. Parasitol. **1**: 31-36 (Sept.) 1914.
4. Cort, W. W.: Egg Variation in a Trematode Species, J. Parasitol. **2**: 25-26 (Sept.) 1915.

The material for this study was kindly supplied by Dr. Charles S. Williamson of Chicago. A very large specimen of *Diphyllobothrium latum* was obtained from a patient, and from the macerated fresh proglottids were obtained a great number of eggs. One hundred of these were measured and the results recorded. None were measured which looked abnormal in any way, and only those which were oriented in the field with the polar axis parallel to the slide were used. All the eggs measured were well along in development, as was noted by the color of the shells and the segmentation of the yolk cells.

From a study of the measurements, it was found that the length of the eggs varied from 55 microns to 76 microns, while the average length was 63.64 microns. The transverse diameter varied from 41 to 56 microns, the average being 47.33 microns. The ratio between the width of the egg and its length varied from 1 : 1.19 to 1 : 1.56, with an average of 1 : 1.3775.

The longest eggs measured 76 by 49 and 76 by 52 microns, while the shortest egg was 55 by 46 microns. The egg having the longest transverse diameter was 67 by 56 microns, and the one with the least transverse diameter measured 60 by 41 microns. An egg of average length and average transverse diameter would have a ratio of diameter to length as 1 : 1.30.

It becomes evident from this study that the mere size of the egg in the case of this interesting cestode is not of a great deal of value in identifying the species with which the host is infected. This becomes all the more evident when one recalls that the eggs of *Diphyllobothrium cordatum* are said to range from 75 to 80 by 50 microns, and those of *Diplogonoporus grandis* are given as being 63 by 48 to 50 microns. Even the eggs of trematodes and nematodes might be mistaken for these eggs if size alone is the criterion for distinction. The eggs of the hookworms are but slightly smaller in the transverse diameter, and are as long as those of *D. latum*. The eggs of *Dioctophyme gigas*, the kidney worm, are 60 by 40 microns, and the eggs of the species of *Trichostrongylus* found in man lie within the range found to cover those of *D. latum*. The eggs of *Paragonimus* are but slightly larger, and some individual eggs are without doubt as small as the largest ones found in the cestode.

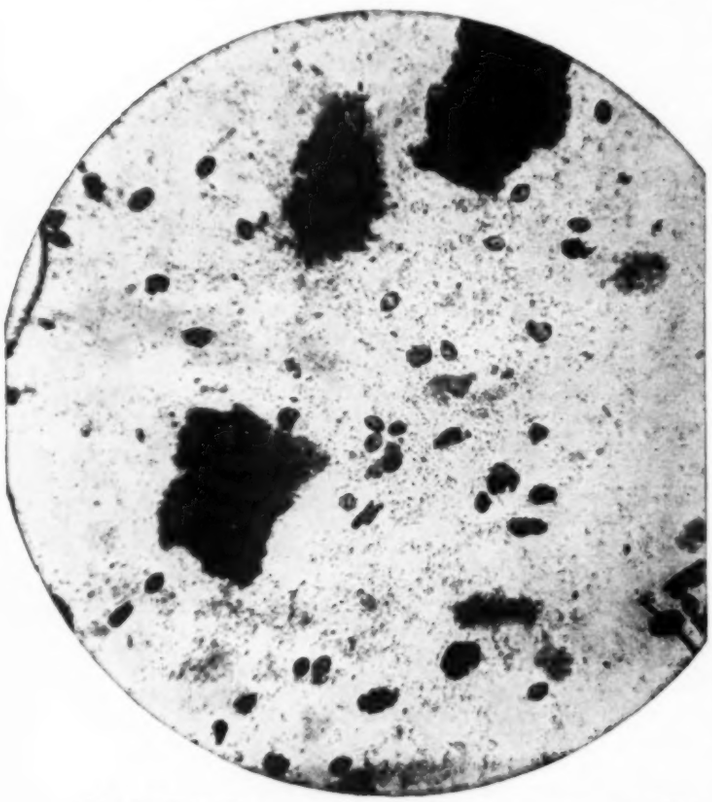

Fig. 2.—Photomicrograph of a field of D. latum eggs, as seen under low power; × 50.

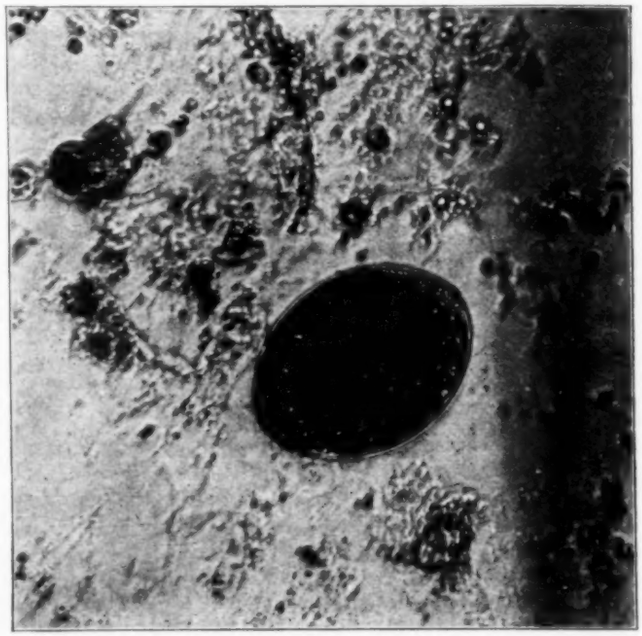

Fig. 3.—Photomicrograph of an egg of D. latum, × 400, in which the characteristic features of the egg are shown.

It is evident that if one is to make a positive diagnosis in the case of an infection with *Diphyllobothrium latum*, it will be necessary to have some characteristics which will identify the eggs found in the stools. Figures 1 and 3 illustrate the eggs of this species. It will be seen that within the shell there is an irregular mass of granular material which represents the rapidly segmentating yolk cells in which is surrounded the growing embryo. The shell is a light straw color, transparent and with a thin shell, which is less than a micron thick. Within this shell is a very thin membrane, and the yolk cells are within this membrane. The eggs are almost ellipsoidal in shape, but tend to be more pointed at one pole. This pole is fitted with a very small cap, which in Figure 1 is seen slightly opened. Later on the embryo makes its escape through this opening of the shell. At the opposite pole there is a minute thickening of the shell, which has apparently escaped the observation of previous workers, but which is constant and becomes more conspicuous as the eggs mature, just as in the case of the cap at the other end. With these characteristics, which are purely morphologic, one may make a very definite diagnosis of the presence of this worm, the egg lying within the range of size given above.

It is interesting to note the statements of previous writers on the subject of the eggs of *D. latum*. Thus Ward[5] says:

> Eggs oval, 0.05 to 0.07 long, 0.035 to 0.045 wide; they have a brown shell with a cover.

5. Ward, H. B.: The Parasitic Worms of Man and the Domestic Animals, Report for 1894, Neb. State Board Agr., p. 294, 1895.

Ward,[1] quoting from Schauinsland, says:

The eggs possess a thick brown shell, and a small lid, which becomes especially distinct at the close of development. They contain a large amount of yolk substance, and do not increase in size. As in all Bothriocephalids the development is carried out in the water and not in the maternal body, so that the inconspicuous egg cell is only rarely to be found in the mass of yolk cells which usually completely conceal it.

Ward[6] further states that the eggs are from 68 to 70 by 45 microns in size.

Castellani and Chalmers[7] state that:

The brown eggs are oval, 68 to 71 microns in length, and 45 microns in breadth, with an operculum.

Stephens[8] gives the following data:

Eggs large, with brownish shells and small lids, 68 to 71 by 45 microns; the ovarian cell, which is already, as a rule, in process of segmentation, is surrounded by numerous large yolk cells.

Faught[9] says:

The eggs are large with brownish shells and small lids. They measure 0.068 to 0.071 by 0.045 mm.

Todd[10] maintains that:

The ova are characteristic. They measure about 45 to 70 microns, are brown in color, and are filled with small spherules. The shell is thin and has a small hinged lid at one end. As the eggs appear in the feces the lid is not easily seen, but it may be demonstrated by sufficient pressure upon the cover glass to force it open.

Wood[11] says:

The eggs measure 45 by 67-71 microns. They are of a brown color and occasionally a small cap or lid can be demonstrated at one end of the egg. The shell is thin and highly refractile. The germ cells are often segmented and surrounded by a number of large yolk cells.

Webster comments thus:

The ova are brownish in color, ellipsoidal in shape, 68 to 71 microns in length and 44 to 45 in transverse diameter, have a thin shell, and a lid which may be opened or closed. The contents of the ova are coarsely granular or mulberry-like.

From these accounts it can be seen that the previous statements concerning the size of the egg in *D. latum* have been misleading on the basis of the present study, and from other indications I am inclined to think that all of our common species of parasites of man and the lower animals will bear investigation along the line of the size of the eggs. It is hoped that others who have material available will undertake such a study on fresh material. The quickest way in which to measure eggs that I know of is to project a scale on a card from a stage micrometer by means of a camera lucida, and to draw the scale, subdividing the spaces to have divisions equal to 5 microns. A similar scale is projected over this scale and at right angles to the first lines. Then the eggs are projected on the scale on the card by the camera lucida and the measurements read off. For the present work a magnification of 700 diameters proved efficient.

6. Ward, H. B.: Cestoda, Reference Handbook of the Medical Sciences, New York, William Wood & Co. **2**: 776, 1912.
7. Castellani, A., and Chalmers, J.: A Manual of Tropical Medicine, New York, William Wood & Co., 1914.
8. Stephens, J. W. W.: Platyhelminthes, in Fantham, Stephens and Theobald: The Animal Parasites of Man, New York, William Wood & Co., 1917.
9. Faught, F. A.: Essentials of Laboratory Diagnosis, Ed. 6, Philadelphia, F. A. Davis Company, 1917, p. 152.
10. Todd, J. C.: Clinical Diagnosis, Ed. 2, Philadelphia, W. B. Saunders, 1912, p. 352.
11. Wood, F. C.: Chemical and Microscopical Diagnosis, New York, D. Appleton & Co., 1905, p. 349.
12. Webster, R. W.: Diagnostic Methods, Chemical, Bacteriological and Microscopical, Ed. 5, Philadelphia, P. Blakiston's Son & Co., 1916, p. 144.

CONCLUSIONS

1. There is great variation in the eggs of *Diphyllobothrium latum*.
2. The average length is 63.64 microns, the average transverse diameter 47.33 microns, and the average ratio between transverse diameter and length is 1 : 1.3775.
3. Because of the great variation in the size of the eggs it is not wise to make a definite diagnosis of the presence of this species entirely from measurements of the eggs, but to consider the morphology of the eggs as well. The cap on one pole and the small thickened nodule at the other clinch the diagnosis. A thorough search for proglottids should be made in the feces in suspected cases.

A METHOD FOR THE PREPARATION OF PROPHYLACTIC AND AUTOGENOUS LIPOVACCINES *

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ROCHESTER, MINN.

In prophylactic inoculations with a mixed vaccine against influenza and its complications, it was noted that a small percentage of the persons inoculated developed rather severe reactions.[1] The possible

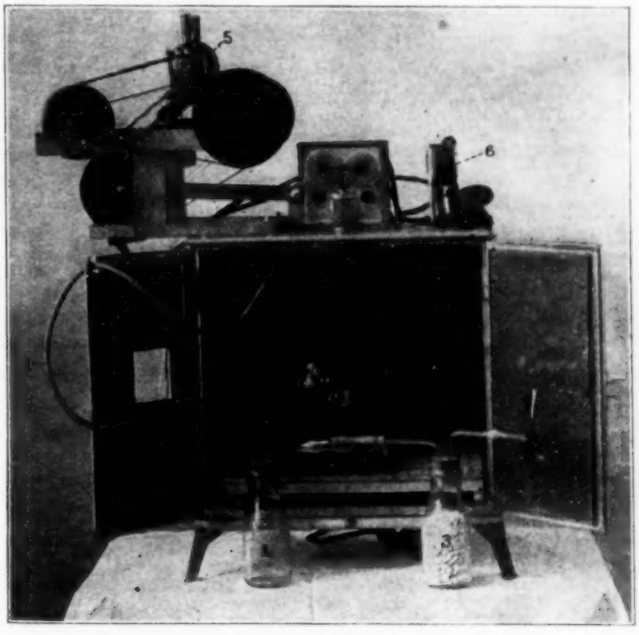

Fig. 1.—Oven and shaking machine.

advantages to be derived by suspending the bacteria in oil, especially when a mixed vaccine is indicated, as first practiced by Le Moignic and Pinoy[2] and studied on a large scale by Whitmore and his co-workers in the Army Medical School,[3] have been pointed

* From the Mayo Foundation.

1. Rosenow, E. C.: Prophylactic Inoculation Against Respiratory Infections During the Present Pandemic of Influenza: Preliminary Report, J. A. M. A. **72**: 31-34 (Jan. 4) 1919.
2. Le Moignic and Pinoy: Les vaccins en emulsion dans les corps gras ou lipovaccins, Compt. rend. Soc. de biol. **79**: 201-203, 1916.
3. Whitmore, E. R.; Fennel, E. A., and Peterson, W. F.: An Experimental Investigation of Lipovaccines: A Preliminary Note, J. A. M. A., **70**: 427-431 (Feb. 16) 1918. Whitmore, E. R., and Fennel, E. A.: An Experimental Investigation of Lipovaccines: An Additional Note, with a Note on Triple Dysentery Lipovaccines, J. A. M. A. **70**: 902-904 (March 30) 1918.

out in a preliminary report. Owing to the slow absorption and the fact that bacterial toxins are lipotropic, larger doses may be given with less local and constitutional reaction than when the bacteria are suspended in salt solution. The formation of antibodies should be more marked and the resulting immunity more enduring.

The chief difficulty encountered in the preparation of a lipovaccine arises from the fact that the bacteria must be dried, and all methods used thus far for drying produce a clumping of the bacteria. This makes it necessary to break up the masses formed in the drying process before a homogeneous mixture in oil can be made. The method as worked out at the Army Medical School[4] consists essentially in drying the collected bacteria in Petri dishes at a relatively low temperature (53 C.), which inevitaby causes them to clump in a firm, hard mass. They are then separated by prolonged grinding in bottles containing steel shot. This requires cumbersome and expensive apparatus and involves a number of steps in which contamination is prevented with difficulty. The method is obviously impracticable for the preparation of autogenous vaccines. The possibility that the prolonged grinding may render the bacterial substance more readily absorbable is also an apparent objection.

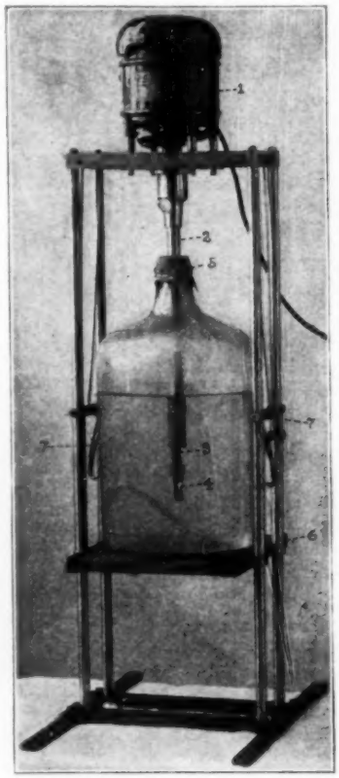

Fig. 2.—Machine for mixing the stock suspension with oil.

We have tried various procedures in order to simplify the methods used. In connection with some work in poliomyelitis it was noted that streptococci and pneumococci not only remained gram-positive but also retained specific immunologic characteristics for many months when suspended in 50 per cent. glycerol. The dehydrating power of pure glycerol is well known, and it was thought that this might be an effective agent in drying the bacteria and in preserving their antigenic properties. But glycerol and oil will not mix, even when emulsifying agents are used, and hence this method was found impracticable. Drying the bacteria with absolute alcohol and ether or with acetone and ether, in which the bacteria are less solidly packed than when dried by heat, was thought of, but the possibility of destroying the antigenic properties would not justify the slight advantage gained, since the grinding process would still be necessary. The method of drying the frozen bacteria in vacuo is difficult, requires special apparatus, and does not eliminate the grinding process. The method of drying serums and other liquids at a low temperature in vacuo, as used by Burrows and Cohn,[5] and by Marmier,[6] was suggested by Dr. E. C. Kendall. This was found to be effective in getting rid of the water in a closed system and undoubtedly in preserving antigenic properties, but the grinding process was still found necessary. It occurred to us that if the water were removed by distillation in vacuo from a water-bacterial-oil emulsion, the oil would prevent the clumping of the bacteria and thus make the cumbersome, time-consuming, and otherwise objectionable grinding process unnecessary. With this as the underlying principle, a method has been developed for the preparation of varying quantities of lipovaccines.

METHOD EMPLOYED

The steps in the preparation of large quantities of oil vaccines may thus be subdivided:

1. The method for the preparation of the bacterial paste is identical with that used in the preparation of saline vaccine. The bacterial growth contained in glucose broth is centrifugalized out, the continuous feed centrifuge being used.

2. The bacterial paste is removed from the centrifuge bowl under a hood by the use of a spatula, and is transferred to the proper sized, wide-mouth bottle.

Sufficient sterile water is added to give a very dense but homogeneous suspension, and the mixture is thoroughly shaken. One c.c. of water to each liter of broth-culture medium gives about the correct degree of concentration. The bacteria suspended in water are killed by thermal or chemical means. If heat is used, the bottle is immersed in a water bath and kept at a temperature of 60 C. for one-half hour, at the end of which time cultures are made. If a chemical method is to be used, sufficient cresol is added to the water suspension to make it a 2 per cent. cresol solution. The mixture is well shaken. After it has stood for twelve hours, cultures are made. In the case of *Staphylococcus aureus* and of other resistant bacteria, heat and cresol are used in combination. The suspension is heated for one-half hour at 60 C. in a 2 per cent. solution, and then allowed to stand for twelve hours or longer.[7] When the cultures prove sterile, the dense water-bacterial suspension is transferred to a proper-sized, round-bottom flask. We use the heavy Pyrex flask and have found it very satisfactory. For the preparation of large amounts of vaccine, for instance using the growth from 200 to 300 liters of glucose broth averaging 2 millions of bacteria per cubic centimeter, we ordinarily use a 3-liter flask. For smaller amounts a two or a one liter flask may be substituted. It is desirable, however, to use one of fairly large capacity because of the increased amount of surface obtained for the subsequent removal of the water in vacuo.

3. For each liter of broth culture, 5 c.c. of sterile cottonseed oil, containing from 5 to 10 per cent. lanolin, are added to the water suspension. To facilitate boiling and to aid in breaking up any bacterial clumps which may form, about 100 gm. of solid glass beads (3 mm. in diameter) or steel shot, three-thirty-seconds inch in diameter,[8] are added, and the flask is placed in the oven, as shown in Figure 1. Glass beads obviate any oxidase reaction which, in the case of steel shot, may result in a darkening of the suspension. The oven is maintained at a temperature of from 60 to 65 C. The oven and shaking machine, although convenient, are not essential.

4. Fennel, E. A.: Prophylactic Inoculation Against Pneumonia: A Brief History and the Present Status of the Procedure, J. A. M. A. **71**: 2115-2120 (Dec. 28) 1918.

5. Burrows, G. H., and Cohn, E. J.: A Quantitative Study of the Evaporation of Blood Serum, J. Biol. Chem. **36**: 587-590, 1918.

6. Marmier, L.: Nouvel appareil pour la dessiccation ou la concentration des liquides a basse temperature, Ann. d. l'Inst. Pasteur **32**: 145-149, 1918.

7. Sterilization in cresol is more effective at 37 C. than at room or icebox temperatures. Suspensions accidentally contaminated with Bacillus subtilis are rendered sterile when incubated at 37 C. for from twenty-four to forty-eight hours, while the control suspensions at the lower temperatures continue to show living bacteria.

8. Hoover Steel Ball Company, Ann Arbor, Mich.: 3/32 inch diameter, steel burnishing balls.

Numerous large batches have been evaporated by immersing the flask in a water bath at 65 C., and shaking it by hand at intervals. The flask is connected by flexible pressure tubing (1) to the condensing bottles (2 and 3), the first bottle serving as a condensing reservoir, and the second containing unslaked lime or calcium chlorid, which acts as a further drying agent. The parts sterilized include the flask, Tube 1 and Bottle 2. Tube 4 connects with the vacuum pump. The Geryk type of pump is used to develop a vacuum of 1 mm. or less of mercury. The rate of shaking is controlled by the small sewing machine motor (5) and the rheostat (6). The length of the stroke is 4 inches. Good agitation is obtained by using eighty strokes per minute. The time necessary to drive off completely all the water depends, of course, on the total volume present. From four to six hours ordinarily suffice for quantities requiring the removal of 150 c.c. or so of water. This length of time is proportionately decreased as smaller volumes of water are used. Until the water is practically all removed, the temperature of the evaporating liquid is from 10 to 15 degrees lower than that of the oven. The distillation requires little or no attention, the apparatus running very smoothly. As the mixture becomes more anhydrous, the viscosity is increased, and the suspension appears as a very thick emulsion when the major portion of the water is removed. As the last portions of water are driven off, the bacterial mass becomes solvated, forming a thick, nearly clear homogeneous suspension. It is important that all of the water shall be removed. The end-point of the distillation may be determined by the almost complete clearing of the mixture and the absence of water condensation in the condensing tube. The vacuum pump is disconnected at the cotton plug in Tube 4. The sterile cotton plug between Bottles 2 and 3 prevents contamination by the inrushing air. The contents are poured through a fine mesh screen into a stock bottle in order to remove any pieces of cork or clumps of bacteria that may not have been broken up. To prevent any material loss of suspension, the flask may be washed out with small quantities of sterile oil.

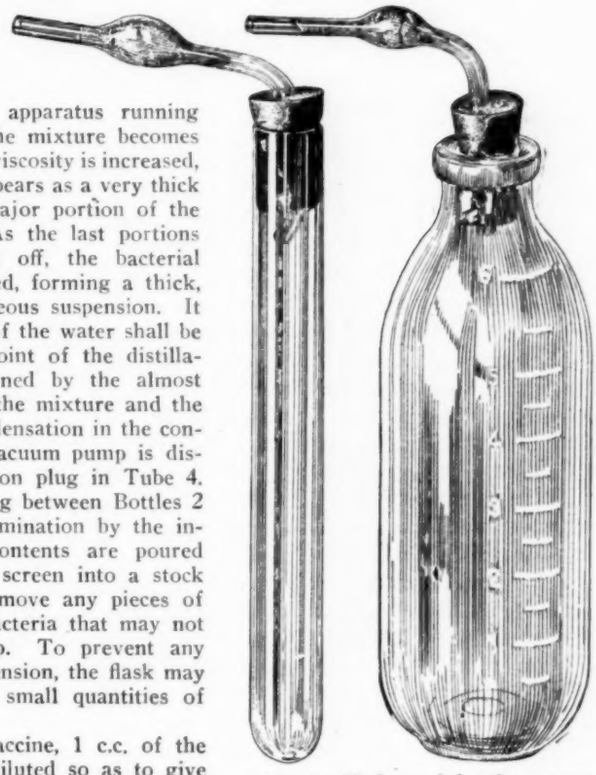

Fig. 3.—Flasks used for the vacuum distillation of water from water bacterial-oil emulsion.

4. For use as a vaccine, 1 c.c. of the stock suspension is diluted so as to give a final concentration of 50 billions of bacteria per cubic centimeter. For example, in the procedure just described, 5 c.c. of cottonseed oil are added to the growth from each liter of broth culture, representing 2,000 billion bacteria. Thus the stock suspension contains 400 billions of bacteria per cubic centimeter. This is diluted eight times, giving a concentration of 50 billions of bacteria per cubic centimeter for use as a vaccine. We prefer to base our dosage on bacterial counts rather than on the basis of weight of the bacterial substance. The percentage or error in weighing the dried bacterial substance, containing a variable amount of the precipitate formed in glucose broth as the result of acid produced during bacterial growth, is comparable with the experimental error made in counting bacteria. Moreover, it is difficult to avoid contamination in weighing the dried bacterial substance. If, however, the weight of the dried bacterial substance is desired when large amounts are dealt with, it may readily be obtained by subtracting the weight of the oil used from the total weight of the oil-bacterial suspension as removed from the flask at the end of the distillation.

5. The cottonseed oil and lanolin are sterilized in the autoclave at 15 pounds pressure for thirty minutes, and then removed while hot and placed in a hot-air oven at 105 C. for an additional thirty minutes, or longer if one is dealing with larger quantities. The flasks should be of the wide-mouth type to facilitate the entrance of steam; they should be filled well to the top and stopped with a cotton plug. This sterilization, together with the removal of the oil from the autoclave while hot, reduces to a minimum the amount of water taken up. Heating in the air oven insures sterilization and removes what water has been taken up by the oil. Contrary to the general opinion with respect to the difficulties encountered in sterilizing oil, we have experienced no difficulty by using this method. Control tests, in which the oil was contaminated with dust containing highly resistant spores, were found sterile in every instance, after using the foregoing method of sterilization. Because of the absence of water, the need for a preservative in lipovaccines is less than in saline vaccines. Various preservatives, such as camphor and chlorbutanol, have been used. In this method the small amount of cresol present in the stock suspension is sufficient to prevent bacterial growth from accidental contamination.

6. In order to insure complete sterility of the final vaccine, rigorous sterility tests are made: (1) of the water suspension of the bacteria after the cresol and heat have been used; (2) of the cottonseed oil containing lanolin which is added to the water suspension; (3) of the stock suspension after distilling off the water, and (4) of the final oil suspension to be used as a vaccine. The cultures are made on blood agar in tall tubes of glucose bran broth and litmus milk. In addition the final product is injected into animals to insure sterility.

In order to thoroughly mix large quantites of the stock suspension with the oil for final use, the machine constructed for us by Mr. Little, is found convenient (Fig. 2). It consists of a vertical, one-eighth horse-power motor (Fig. 2, 1) fitted with a removable sleeve (2) which contains bearings for the shaft (3), to which are fastened two propeller blades (4). These are thrown out horizontally as the shaft revolves at a rapid rate (1,700 revolutions per minute). The sleeve and shaft slip off together; these are sterilized and introduced through the small hole in the rubber dam (5). The support (6) is adjustable and is held securely in place by the hooks (7). The bottle, which has a capacity of 5 gallons, is filled three-fourths full. Smaller bottles may be used as required. The revolving blades are placed so as to produce a vigorous downward and outward current; hence the agitation is violent and soon results in an even mixture.

COMMENT

This method has given perfectly even, homogeneous suspensions with various species of bacteria. Large quantities of the mixed vaccine used for prophylactic inoculation against influenza, containing type pneumococci, Group IV pneumococci, green-producing streptococci, hemolytic streptococci and staphylococci, have been prepared by mixing in the centrifugal bowl the bacteria grown separately, as well as by mixing the dried oil suspensions of the different strains. In addition, excellent lipovaccines have been made of typhoid-paratyphoid and dysentery bacilli, of influenza bacilli, colon bacilli, *Streptococcus viridans* from endocarditis, gonococci and meningococci. The antigenic and toxic properties, especially in varying the doses

of the mixed vaccine for influenza, will be reported in detail later. It is sufficient to state here that as high as 90 billions of bacteria have been given to a few persons, with only slight constitutional and local reaction. A dose of 0.5 c.c. containing 25 billions of the dried bacteria in the oil given more than 500 persons during a recrudescence of influenza rarely produced more than a slight reaction. But after the use of this vaccine, as after the use of the saline vaccine, an occasional person reacted more severely and a sterile abscess formed. Antibody production—agglutinins—has been found pronounced following the injections of such dosage. It is therefore evident that the somewhat prolonged heating in the oil in vacuo when large quantities are prepared does not destroy the antigenic properties.

It is imperative that there shall be no living bacteria in the water suspension at the time the oil is added. Early in the work it was thought that heating during the distillation in vacuo would serve the double purpose of killing the bacteria and driving off the water. This was found not to be so. Many of the suspensions showed living streptococci and other bacteria after prolonged heating at temperatures from 60 to 75 C. Temperatures as high as 100 C. for a period of two hours failed to kill after the water had been removed.[9] It is obvious that the mixture must be sterile at the time the oil is added. The heat used in the distillation does not alter materially the antigenic properties of the bacteria since it is not even sufficient to kill them. On the basis of this fact, moreover, there is good reason to believe that heating the water-bacterial-oil emulsion to the boiling point of water under atmospheric pressure will not destroy the antigenic properties of the bacteria. Should this be found to be the case the method might be simplified still further.

It is desirable in order to decrease the toxicity of the vaccine that the distillation shall be continued until the suspension has become cleared. This is well indicated in the following experiment: Two parallel series of persons—six in each series—were inoculated with equivalent doses of the mixed vaccine as used for prophylactic inoculation against influenza. One series received the incompletely dried, turbid suspension; the other the more completely dried and cleared suspension. Two persons in each series received each, respectively, 25 billions, 50 billions and 75 billions of bacteria subcutaneously. The results showed that the incompletely dried suspension was decidedly more toxic, producing more reaction, both constitutionally and locally, especially locally, than the completely dried suspension. There was no fever nor other evidence of constitutional reaction in any who received the latter. This decreased toxicity is apparently due to a detoxicating action of the oil or lanolin as they permeate the bacterial substance or to a delayed absorption or both.

The clearing that occurs as the oil permeates the dried bacteria is so striking as to suggest actual solution; but this is not what takes place, since the bacteria, on making a watery suspension from the oil, stain normally and are of sharp outline.

It has been found that the oil will not permeate bacteria dried in air in the usual way as completely as those dried in vacuo in the presence of oil. The toxicity of the former should, according to the foregoing experiment, be proportionately greater.

It may be suggested that desensitization against pollen or other protein substances may be greatly enhanced by the use of an oil instead of a saline suspension.

PREPARATION OF AUTOGENOUS LIPOVACCINES

The common 6-ounce nursing bottle shown in Figure 3 has been found useful for the preparation of autogenous lipovaccines. It serves admirably as a culture flask, centrifuge tube and vacuum flask. The bacteria are grown in tall columns of glucose broth (150 c.c. per bottle) for twenty-four hours, centrifugalized, the supernatant clear broth decanted, and the sediment suspended in 10 c.c. of a 1.5 per cent. solution of purified cresol in water or salt solution. This is thoroughly mixed and placed at 37 C. for from two to fifteen hours, when cultures are made. Streptococci and pneumococci are usually killed in from two to twenty-four hours. As soon as the suspension is found to be sterile it is centrifugalized; the supernatant fluid is decanted, and 6 c.c. of cottonseed oil containing 2 per cent. anhydrous lanolin and a number of sterile glass beads or steel shot are added. The mixture is emulsified by being shaken for a short time. The small amount of water from this water-bacterial-oil suspension is now removed by applying the vacuum and immersing the bottom of the bottle in water heated to 60 C. By means of vigorous shaking at intervals the removal of the water is hastened. The vacuum and the heat are applied until bubbling ceases and the mixture becomes clear. The time required depends on the completeness of the vacuum and the amount of water to be removed, but the clearing usually takes place in from twenty minutes to one hour. The ordinary bacteriologic test tube as shown in Figure 3 may be used for the preparation of still smaller amounts, but for most purposes the bottle is to be preferred. If larger amounts of bacteria are required, the water or salt solution suspensions of a number of bottles are placed in one, and a correspondingly larger amount of oil is added. By the use of Y tubes the water from a series of suspensions may be removed at one time.

If, for example, bacteria such as influenza bacilli, gonococci, and meningococci, which grow better on solid mediums, are to be used, the growth should be scraped together and washed off with salt solution so that the final suspension is roughly equivalent to that containing the bacteria from the broth culture. Sterilization and the further steps are carried out as above. In the case of the more resistant bacteria, such as staphylococci and parathyphoid bacilli, heating the cresolized suspension to 60 C. for one hour hastens the sterilization. The final bacterial content of the lipovaccine is calculated on the basis of counts made of the bacteria suspended in salt solution or on the basis of the total number of bacteria per cubic centimeter of broth culture. In the broth used in our laboratories, the amount of growth of pneumococci and streptococci is usually about 2 billions and the vaccine is made to contain approximately 50 billions of these organisms per cubic centimeter. The number of bacteria in the oil may be increased ten or twenty fold without inter-

9. This observation suggested at once the possibility that bacteria might live in latency for a long time when dried in vacuo in oil. Strains of many species of bacteria have been filed away and are being studied as to viability and antigenic properties. Both viability and specific immunologic properties of some have been retained for months. Also the present method for immunization against rabies might be greatly simplified if the dried virus (rabbit cord) were suspended in oil. The further results will be reported later.

fering materially with the evaporation of the water or with the even distribution of the bacteria.

The value of autogenous lipovaccines in the treatment of various diseases is now being studied. Striking cures have been noted following the administration of a single large dose of staphylococci (80 billions) in severe recurring furunculosis. Benefit has followed the administration of autogenous pneumococcus and staphylococcus lipovaccines in infections of the maxillary sinus. Judging by the slight constitutional reactions, even when huge doses are given, and the improvement in the few cases studied, it would seem that much good might come from the use of autogenous lipovaccines, especially in the treatment of chronic or recurring infections, when a prolonged immunization is indicated. Marked benefit, it would seem, might come from the use of autogenous lipovaccines in diseases due to focal infection, particularly if foci are removed and the vaccine is made to contain the specific micro-organisms as isolated from the focus.

THE NEWER METHODS OF CESAREAN SECTION

REPORT OF FORTY CASES *

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CHICAGO

The classic cesarean section has come to be one of the safest laparotomies, and at the same time one widely practiced. There is no question that it is too widely practiced, the trust in its general safety being great. This idea in regard to its general safety is the result of the publication by obstetric specialists of series of from fifty to 100 cases without mortality. I myself have had more than 100 successive classic cesarean sections without maternal death ascribable to the operation. Even the people have become imbued with the notion that cesarean section is entirely safe. Indeed, one woman was sent to me by a physician who told her the abdominal delivery was *the* method of childbirth of the future.

MORTALITY FROM CESAREAN SECTION

Accoucheurs of experience know that cesarean section is not so safe. They know that their good results are due to the careful selection of the patients submitted to the operation. They have observed numerous fatalities when proper strictness was not observed in deciding on the abdominal delivery. F. S. Newell said he knows that in several towns around Boston, the mortality (unpublished) from cesarean section has been frightful. He reports eight deaths in 100 cases at the Boston Lying-In Hospital up to 1909. Amand Routh, in 1910, found a general mortality for England of from 2.2 to 34 per cent., depending on the condition of the mother at the time of the operation. Cragin had 143 clean nontoxic cases with three deaths. Williams believes the general mortality will be 10 per cent., and only in the most ideal surroundings and, at the beginning of labor, will it be from 1 to 2 per cent.

In Chicago, deaths due to cesarean section not infrequently occur but are not put on record, and recently the newspapers of a certain county of the state published a successful cesarean section as a wonderful achievement, the woman being the first to survive the operation in the county.

There is an unavoidable mortality to cesarean section. It increases: First, with the length of labor; one might say about 1 per cent. every two hours; second, with the number of vaginal examinations made, or operations attempted; third, with the rupture of the membranes; fourth, with the lack of skill of the operator. Furthermore, there are certain women who carry infection in the vagina—harmless there, but fatal if brought on to the peritoneum. There is no way of discovering it beforehand. Leopold of Dresden found gonorrhea in some of these cases.

MORBIDITY OF THE CLASSIC CESAREAN SECTION

In addition to the mortality, the classic cesarean section has a distinct morbidity. Just as the mortality has been gradually reduced by proper selection of the cases, by operating early, by refinement of operating-room technic, etc., so has the morbidity been reduced—but not in like proportion. A large proportion suffer from peritoneal shock. In fully 20 per cent. of the cases there is fever after operation. Uterine abscess occasionally follows, partial paralytic ileus and gastric dilatation not seldom occur, adhesions of omentum or intestine to the uterine or abdominal scar are the rule, and the danger of rupture of the uterine line of suture in subsequent labor is still a real one. The five main objections to the classic cesarean section are: the inherent mortality, the frequency of abdominal complications, adhesions, rupture of the scar in subsequent labor, and the necessity to restrict the operation to clean cases.

In infected, or possibly infected cases of obstructed labor, since pubiotomy is too dangerous, craniotomy is the only alternative; and it is to reduce the necessity of this horrible operation that the newer methods of cesarean section have been developed.

Since the objections enumerated always beset the classic cesarean section, and since the greatest dangers came from the fact that the peritoneum was opened, the old accoucheurs sought to avoid this necessity and tried to extract the child from beneath the peritoneum. The first suggestion came from Joerg in 1809, and Ritgen performed the operation in 1821. Physick of Philadelphia, in 1824, recommended this method to Dewees of Philadelphia, but I could not find that Dewees had performed it. Joerg had suggested that the incision be made in the flank, and that the peritoneum be dissected upward, in the manner preparatory to ligation of the internal iliac artery, the child then being extracted from the parturient canal. In 1870, T. Gaillard Thomas revived the operation which had been named "gastro-elytrotomy" by Baudelocque. Very few of these cases were successful, as we can readily understand. It was because of the lack of asepsis, and infection killed nearly all of the women.

ATTEMPTS TO IMPROVE THE CLASSIC CESAREAN SECTION

Attempts to improve the classic cesarean section, to make it adaptable to the neglected cases, failed until 1906, in which year Frank, of Bonn, disinterred the old extraperitoneal methods. He opened the abdomen just above the pubis, united the peritoneum of the uterus to the peritoneum of the abdominal wall, thus shutting off the general peritoneal cavity, and delivered the child through the almond-shaped space provided.

* Read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Seventieth Annual Session of the American Medical Association, Atlantic City, June, 1919.

Later Sellheim attempted to push the peritoneum upward from off the bladder, as was recommended by Physick in 1824, which thus freed the space over the cervix and lower uterine segment, through which he delivered the child.

Many operators, mostly continental, developed these ideas, and now there are about twenty different procedures.[1] All these methods of performing the operation depend on certain changes which occur during pregnancy and labor in the relations of the cervix and lower segment to the bladder and vesical peritoneum.

We know that during pregnancy the peritoneum over the lower uterine segment and bladder becomes very much softened and loosened from its base. It also hypertrophies under the stimulation of pregnancy. With the development of the lower uterine segment and cervix in the latter weeks of pregnancy and particularly in labor, the muscle of the cervix is drawn away, upward and outward, from the bladder attachments. The vesico-uterine culdesac is usually obliterated. The peritoneum is also drawn upward at the sides of the bladder in the neighborhood of the round ligaments. At the same time the mobility of the peritoneum on the subjacent structures becomes much

MORTALITY IN CESAREAN SECTIONS

	Extraperitoneal			Transperitoneal			
Name	No. of Operations	Deaths Mother	Deaths Baby	No. of Operations	Deaths Mother	Deaths Baby	Remarks
Hirst	6	1	1	27	0	0	
Brodhead	1	0	0	4	0	0	
Davis	8	1	1	..	..	..	All infected cases
McPherson	10	2	2	..	..	..	All infected cases
McNeile	..	..	..	2	0	0	Both infected
Ritchie	..	..	..	1	0	0	
Chalfant	..	..	..	2	0	0	
Williams, J. W.	4	0	0	..	..	..	
Polak and Beck	..	..	..	34	1	0	All suspicious
Kohlman	8	0	0	3	0	0	5 suspicious
De Lee, Stowe and Cornell.	2	0	0	44	0	0	10 suspicious
	39	4	4	117	1	0	

increased. It is therefore possible, after incising this portion of the peritoneum, to push the bladder off of its cervical attachments with great ease, and to expose an area of the cervix and lower uterine segment large enough for the delivery of the child without encroaching on that portion of the peritoneum which is opened in the classic cesarean section. Of the twenty or more operations that have been invented, only two seem likely to obtain recognition.

THE TRANSPERITONEAL VERSUS THE EXTRAPERITONEAL METHOD

All these methods may be divided into two classes: first the transperitoneal, or perperitoneal, and second, the extraperitoneal. In the transperitoneal operation, the abdomen is opened above the pubis, and the peritoneum over the cervix, near the bladder, is incised and loosened from its bed. By means of closely set continuous sutures, or by clamps, the parietal and visceral peritoneal layers are united. Some operators omit this part and protect the general peritoneal cavity by packing sponges around the uterus. In clean cases no more is necessary. The lower uterine segment and cervix are then incised, the child delivered, the placenta following; then the uterus is closed and the double layer of the peritoneum also reunited. The general peritoneal cavity thus is temporarily removed from the field of operation, and infectious matters, such as meconium, liquor amnii and blood, are not permitted to spread over it. Some operators cut the line of temporary peritoneal sutures, and reunite the individual layers of peritoneum. Others do not do this, but sew the two layers together. Sellheim sews the uterine wall to the skin and leaves the wound open to drain, and calls such a delivery one through a utero-abdominal fistula. Among the transperitoneal cesarean sections, that invented by Krönig and modified by Gellhorn of St. Louis seems to possess most advantages, and is used in suspected cases.

Of the extraperitoneal methods, that of Latzko is the best. In Latzko's operation the incision is made either transversely or longitudinally, just above the pubis. The peritoneum is pulled out of the pelvis, the bladder is pushed off of the cervix to the right; and beneath the vesico-uterine fold which has been pushed up toward the navel, a bare space of cervix and lower uterine segment is provided, through which the child is delivered.

THE INDICATIONS

From the description given above it is evident that two new operations have been added to our armamentarium. Both have this in common—the lower or cervical zone of the uterus is opened for the delivery of the child, whereas, in the old, the classic operation, the corpus or fundus uteri is opened. We must hereafter speak, therefore, of cervical cesarean section, and corporeal, or classic, cesarean section. Since there are two methods of cervical section, and each one has its own indications and conditions, we have three distinct operations to consider when the question of abdominal delivery arises. It is not alone, "Shall we perform cesarean section in this case?" but, "Given the indication for abdominal delivery, what kind of section shall we perform?"

ABSOLUTE AND RELATIVE INDICATIONS FOR CESAREAN SECTION

The old teachers divided the indications for cesarean section into absolute and relative: The absolute indication existed when there was no possibility of delivering the child through the natural passages, the way being blocked by a contracted pelvis, a neoplasm, scar tissue, etc.; or the child being a mammoth. The relative indication existed, when, after carefully balancing all conditions, the accoucheur decided that the abdominal delivery offered the best chances for mother and child. It is therefore almost wholly subjective, and it left a wide field for the play of individual preference, for the influence of isolated experience, and for the clash of contending statistics. Moderately contracted pelvis, placenta praevia and eclampsia are the main so-called relative indications. Before taking up the specific indications, let us study the comparative merits of the two contenders for favor, the corporeal and the cervical cesarean sections.

The objections to the classic cesarean section have been mentioned.

1. *The Mortality.*—I believe no one of experience will contest the statement that 2 per cent. of patients undergoing a clean nontoxic cesarean section die at present. Does the cervical cesarean section reduce this mortality? In reply to a questionnaire ten operators report 117 cases of transperitoneal and thirty-nine cases of extraperitoneal cesarean section, with

1. For literature compare Nicholson: Surg., Gynec. & Obst., Feb., 1914, p. 245, and Küstner: Zentralbl. f. Gynäk., No. 31, 1915.

the death of five mothers and four babies. Hirst, Brodhead, A. B. Davis, McPherson, McNeile, Ritchie, Chalfant, J. W. Williams, Polak and Beck, De Lee, Stowe and Cornell did these operations, and it should be noted that most of these women were either frankly infected, or suspected, at least unsuitable for the classic section. Reusch[2] completed a list of 595 operations which have been performed in Europe, with a mortality of less than 2 per cent., and, again, these were largely on patients who were already infected.

My assistants and I have operated in forty-six cases without fetal or maternal mortality. Theoretically and practically there are many reasons why this should be so. The incision is made in the lower part of the uterus, the cervix, well known to resist infection. The same may be said of the lower abdomen; it resists infection better than the upper; hence, the Fowler position. The uterine wound is at rest, lochia is not squeezed through it by the after-pains, and furthermore, should a leak in the cervical line of suture occur, the leakage is under the peritoneum, between the bladder and the cervix, where it could be easily reached in three ways: by the cervix; between the cervix and the bladder—a simple anterior colpotomy—or by opening the lower corner of the abdominal wound. Should infection wander along the line of suture (as it often does) in the corporeal section, it at once reaches the peritoneal cavity; in the cervical section it reaches a safer area—one more easily drained.

Another element of safety is the entire absence of any handling of the intestine. Often the intestine does not even come into view. Liquor amnii, vernix caseosa, meconium do not soil the peritoneum.

2. *Abdominal Complications.*—Comparative statistics on this point I have been unable to obtain; but the opinions of careful observers are worth something. The convalescence after the cervical cesarean section is, without question, smoother than after the classic section. Peritoneal shock, ileus, gastric dilatation, I have not yet observed—for reasons above mentioned; tympany and postoperative pain are decidedly less, and one gets the impression that the woman has suffered only a minor operation, not the ordeal of the old cesarean section. This feeling of well being after the cervical operation is really remarkable. The puerpera is more comfortable than a patient after an interval appendectomy, the convalescence resembling that after normal labor. These observations are confirmed by the interns and nurses who can compare the two kinds of operations. Of my own thirty-one cases, there was suppuration in only one case, which is the more noteworthy since in nine of them there was a slight suspicion of infection.

3. *Adhesions.*—Regarding peritoneal adhesions, I cannot speak finally, having operated on only two patients for the second time. There were none in the one case, and in the other there was suppuration, so we expected them. Titus reports three cases (reoperations) without adhesions. Continental accoucheurs report them absent, and theoretically they should be. In most of my operations the intestine was not touched, and in many of them it did not come into view at all. Furthermore, the contents of the uterus, which many times are irritating if not actually infectious, do not soil the general peritoneal cavity, and finally the line of uterine suture of the finished operation is only about 2½ inches long, smooth and without catgut knots, and when the bladder fills, is covered by this viscus. In the true extraperitoneal method (Latzko) the peritoneal cavity is not opened at all, and in the absence of infection, adhesions, ileus, etc., will not occur. Adhesions are sometimes caused by seepage of lochia. This is impossible with the newer methods.

4. *Rupture of the Uterus in Subsequent Labor.*—I found only two cases of this on record, and, in both of these, part of the incision had been made in the body of the uterus. In my two cases of pregnancy after the cervical operation, the scar was not visible at the second cesarean. Continental writers claim this immunity from rupture as a specially strong point in favor of the low cervical method. Experience with vaginal cesarean section in which the incision is made in the same part of the uterus is confirmatory. The freedom from danger of subsequent rupture is easily understood. When the cut is made in the body of the uterus, the wound surfaces are not at rest during the healing process. With each after-pain, the sides of the wound grind on each other, and even in the absence of infection, are prone not to unite. When the cut is made in the cervix, all this is absent. The wound is at perfect rest.

5. *Expansion of the Field for Abdominal Delivery.*—Without doubt, the cervical cesarean section will in many cases obviate the necessity of craniotomy, and its greater safety will allow us to perform the abdominal delivery under circumstances in which previously we may have desisted: for example, in eclampsia, breech presentation, or prolapse of the cord. Best of all, we may give the parturient a thorough test of labor, lasting hours if need be, which is most unwise with the classic operation.

SPECIAL INDICATIONS FOR THE CLASSIC CESAREAN SECTION

In general, I must say that the more I do these newer operations, the better I like them, and now they are the first thought when the question of cesarean section arises. For doing the old, or classic, cesarean section, I have to have special indications, and these are, usually, the necessity for instant delivery, the desire to remove fibroids, placenta praevia, when a Porro operation is to follow, and in the case of an extremely pendulous abdomen. Experience may prove it possible to omit some of these exceptions.

The choice between extraperitoneal and transperitoneal methods is still undecided, but the majority of operators prefer the latter. The true extraperitoneal operation has the distinct advantage that it protects best against peritonitis—infection, if it occurs, being less dangerous in the connective tissue, and drainage being easily procured. Its disadvantages are that it is often hard to separate the peritoneum and the bladder from the uterus, the peritoneum often and the bladder occasionally tearing through. The uterine incision sometimes extends down into the base of the broad ligament where lie the large veins and ureter; also the delivery of the child is technically more difficult and its mortality slightly higher. For these reasons, and further, since the results for the mother are almost as good, the transperitoneal operation is most often selected.

Let us now consider briefly the most common indications for abdominal delivery. In the presence of insuperable mechanical disproportion, that is, the absolute indication for cesarean section, the older obstetri-

2. Reusch: Zentrabl. f. Gynäk., No. 40, 1917.

cians could only do, if discovered in time, a therapeutic abortion, or the classic cesarean section at term. If the dystocia was experienced only after infection was present or suspected, a Porro or complete uterine extirpation was demanded, if the life of the woman was not to be forfeited.

Nowadays we may proceed differently. Therapeutic abortion is absolutely contraindicated. At full term we have four courses to select from: the classic cesarean section, the classic cesarean section with the Porro modification, the transperitoneal cervical section, and the extraperitoneal section. In clean and in suspected cases I recommend the transperitoneal cervical section, and in frankly infected cases, the extraperitoneal section or the Porro cesarean section.

Of the indications comprised in the term "relative," nearly every obstetric complication we know has been advanced as a good reason for abdominal delivery.

In the treatment of labor in pelves that are not absolutely contracted, my plan has become more simplified in recent years. Unless the patient positively demands the induction of premature labor, I do not do it, but I allow the pregnancy to go to term. Just before labor begins I make a careful rectal and abdominal examination to determine whether or not there is any chance that the fetus will pass through the pelvis. If I decide it is highly improbable, I do the transperitoneal cesarean section as soon as labor is well under way. If there is reason to believe that the head will go through, I give the patient a real test of labor. If delivery is impossible, in primiparas, I do the transperitoneal section, in multiparas either this or pubiotomy, being guided by the individual conditions present. This statement holds also for cases in which infection is suspected. In frankly infected cases I still fear to perform an abdominal delivery, in spite of the wonderful results recorded by continental operators. If such is necessary I would recommend the extraperitoneal method with free drainage in young women, and uterine extirpation in old. Williams recommends the Porro operation to meet this emergency. It is just in these neglected cases that the extraperitoneal method is the easiest of performance. The prolonged action of the pains has drawn the lower uterine segment out, pulling the uterovesical fold of the peritoneum high up away from the bladder, thus giving a large area for incision and the extraction of the child. However, in frankly infected cases, craniotomy is still to be held in reserve, since the child is almost always doomed anyway. Küstner is the only authority to contend that the operation will completely eliminate the necessity for craniotomy.

Eclampsia.—I will not discuss the question as to whether or not cesarean section has a place in the treatment of eclampsia. I am not yet ready to go back to the expectant and medicinal treatment of my student days, nor do I treat every case by instant delivery. If one desires a rapid, easy method of emptying the uterus, and one unattended by shock, the transperitoneal cesarean section may be selected. It may be performed under local anesthesia, just the delivery of the child being assisted by a little gas-oxygen anesthesia.

Placenta Praevia.—If cesarean section is done for this condition, I prefer the classic operation. In abruptio placentae, the transperitoneal is the method of choice, unless great speed of delivery is required to save the child. For neglected shoulder and breech presentations, prolapse of the cord, and in the innumerable other obstetric complications, the new operation will, I am sure, find a restricted field of usefulness.

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ABSTRACT OF DISCUSSION

DR. JAMES W. MARKOE, New York: Never have we had a better paper or one more called for than this one on cesarean section. I have had nearly thirty years' experience doing this operation. The curse of cesarean section is that it is too easy and too dangerous. The method brought forward by Dr. De Lee is applicable in all those cases in which we previously did the classical operation. I have never done the extraperitoneal operation except in cases known to be septic. I have had one death. In some of the septic cases in which the peritoneum has been opened accidentally it is possible to strip the peritoneum up to the umbilicus; in other cases this is not done so easily. The possibility of this operation taking the place of the old classical operation almost entirely is great. It has difficulties; pulling the bladder to one side is much more difficult in some cases than in others, especially if the head is very large. The women I have operated on by the method described by Dr. De Lee have come to me with histories of from twenty-four to forty-eight hours of labor, with a pelvis in which there was no possibility of the head coming through; forceps had been applied, version tried and cultures showed the streptococcus, staphylococcus and colon bacillus present. One of these patients died. Suppuration occurred in a few cases, and there was destruction of tissue. Using the Carrel-Dakin method the wounds healed extremely rapidly, without complications. I delivered one of these women again by cesarean section recently. There was no sign of adhesions. Had I known that such would be the case I would have done a transperitoneal operation such as Dr. De Lee describes. That is the coming operation.

DR. JOHN OSBORN POLAK, Brooklyn: I am entirely in accord with practically everything Dr. De Lee said in regard to the transperitoneal operation. I have had no experience with the extraperitoneal operation since my student days. Since 1912 I have been doing the transperitoneal operation. For a few years I did the Kernig operation until recently when at the necropsy on a patient operated on by one of my staff we found what happens. We have had seven necropsies in the last twenty years in these cases and all have shown that the infection is not from the spill but from the extension of the infection from the uterus through the suture hole. The history bears out the necropsy findings. The peritonitis develops five and seven days afterward and the patient dies promptly as the result of an ascending peritonitis. In those instances in which we had been using the Krönig operation, in line with what Dr. De Lee said, we could always cover the incision with the flap. If this incision was made too far up on the uterus and it was not covered the leak came through. A suggestion made by my associate, Dr. Beck, was to make an upper flap of the upper part of the peritoneum. The upper and lower flaps were retracted by retractors, the uterus incised and the child's head delivered by any method indicated. One point in technic is to put the lower and upper sutures in before the rest of the sutures are placed in order to bring the wound out of the field and make suturing of the wound easier. After that is done the upper flap is brought down over the line of incision and tacked by one or two sutures distal to the median line. In the convalescence of these patients there is no gas distention, no elevation of temperature. In this operation we are subjecting the patient to slight risk and if there is infection, drainage is easy and we do not have a peritonitis in which one is absolutely hopeless.

DR. BERTHA VAN HOOSEN, Chicago: The principal advantage of his operation is the fact that it is so much more difficult than the classical operation that it will not be attempted too readily by the man who does only occasional surgery. Another advantage is that the placenta will not give the annoyance that it often does in the classical opera-

tion. We must, however, use the classical operation and I have made a little attempt to copy some of the advantages of this cervical operation in the technic for the corporeal operation. Opening the abdomen in the usual way the body of the uterus completely fills and actually plugs up the incision. One of the things I have often noticed is that the operator uses great haste, and especially those who are inexperienced seem to think there is great haste in opening the uterus. But you may cut the peritoneum and the muscularis with great deliberation. The incision is first through the peritoneum, which retracts. There is practically no bleeding. With another incision the muscularis contracts and the uterus is delivered. Another incision is made rather deeply. Just as you approach the endometrium in some one place the blood will spurt up. At this place push in the finger and separate the mucosa from the membranes and with the knife on your finger open up the uterus. Now that the uterus is opened and the membranes are normally ruptured you can see the form of the child through the membranes and the bleeding has again on account of the tension stopped. For a few moments it is better to use a little haste. You can quickly incise the membrane and just as you do this your assistant puts her finger in the upper angle of the uterus and hooks it over so as to clamp the uterus to the abdominal wall so that the intestines will have no opportunity to be seen and the liquor amnii will have no opportunity to escape into the abdominal cavity. With the hand still clinging to the abdominal wall and hooking the uterus the placenta is removed and the suturing is now begun. Following the suggestion of Dr. Polak the first insertion is through the lower part of the muscularis which is followed by a suture through the top of the incision. The finger is removed and the two sutures are used to bring the uterus closely up to the abdominal wall. You can suture as you wish. As soon as the uterus is closed this lower suture by which the uterus was suspended is cut away, but the upper one is left in place until the peritoneum is closed down to the umbilicus or at a point where there is no tension on the uterus, and when there is no more tension it is cut. The uterus, now contracted, fills the abdominal incision and the peritoneum and abdominal wall can be closed in the usual way. The chief advantage of the method is that little blood is lost and that you have absolute control of the abdominal contents.

DR. GUSTAV E. ZINKE, Cincinnati: During the last month I have performed two cesarean sections which illustrate the ease of the operation and its dangers. The first was a perfectly clean case in a secundipara. There was no complication except a placenta praevia, and for that reason I did the cesarean section. I made a high incision finishing the operation with the patient in bed in thirty minutes from the time of my abdominal incision. She recovered without the slightest symptom and went home at the end of two weeks with her baby in her arms. The second patient had a so-called justominor pelvis. She had passed through a very severe labor, the child being lost because of forceps delivery and version and there were a good many injuries to the soft parts of the pelvis. I put her to the test of labor, but it proved that the passenger was larger than the passage. At the end of the first stage I concluded to do a cesarean section. I delivered the child without difficulty. The woman began to vomit soon after the operation and her husband, a doctor, attributed it to the calomel she had received the day before, saying it always made her sick for a week. She kept on vomiting, yet there was no serious distention of the abdominal cavity. The vomiting grew worse daily. After forty-eight hours I came to the conclusion that probably this was the beginning of an ileus. Her husband insisted that the calomel was responsible. This threw me off the track for another day. On the third day there was fecal vomiting, and the picture was clear. I opened the abdomen five days after the cesarean section and found a knuckle of bowel adherent to the uterine wound. The patient went home three weeks after the cesarean section—two weeks after we reopened the abdomen. Ileus is the danger of cesarean section. One point which impressed me in Dr. De Lee's paper is that cervical cesarean section, the old operation, is looked on with favor in cases in which sepsis is present. There is one mistake which practitioners are apt to make when they speak of sepsis in puerperal cases. We have two forms of sepsis, sapremic and streptococcic. Streptococcic or true septic infection is nearly always fatal, no matter what you do. In the sapremic variety the patients usually get well if they are treated properly.

DR. JOSEPH B. DE LEE, Chicago: The first impression a man gets of this operation is usually bad. Do not stop at the first operation but do three or four. In the presence of a virulent streptococcic infection I doubt whether any form of section is safe. Therefore, craniotomy would not be safe. A Porro operation or extirpation of the uterus might possibly increase the patient's chances. There is a big difference between the ordinary forms of infection which may under unfavorable conditions become dangerous and these rarer cases of streptococcic infection. Dr. Van Hoosen pulls up the uterus against the abdominal wall to prevent the intestine getting in the way. This is not necessary. A corporeal cesarean section is a corporeal cesarean section, no matter how you do it. Dr. Zinke seemed rather proud that he got his patient back into bed in thirty minutes. I know a man who did a cesarean section in eighteen minutes. Whether we take eight, ten or twelve minutes longer to do a complete operation makes little difference so far as the patient is concerned but it does make a difference when you are hurried. You put in fewer stitches and tie knots carelessly, do some damage to the tissues and do not make good uterine sutures. I put in four layers of sutures and sometimes five.

END-RESULTS IN MORE THAN ONE HUNDRED OPERATIONS FOR UTERINE MYOMA

OPERATIVE VERSUS ROENTGEN-RAY TREATMENT *

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In this contribution I hope to show, on the basis of accumulating personal experience and a careful comparison of my results with those of others, that in the successful treatment of uterine myoma surgery still is and probably always will be the most efficient measure at our command. Many attractive and apparently plausible arguments are continuously advanced on behalf of roentgen-ray treatment of these tumors, and the time has come for a definite agreement on this question in the best interest of patients and physicians.

An exaggerated confidence in the benign character of uterine fibroids, not warranted by facts, has led many to accept the roentgen-ray treatment temporarily, relying on surgery in case of failure. The tendency of fibromyomatous tumors of the uterus to undergo sarcomatous degeneration, as well as many serious complications on the part of other pelvic organs, are too often overlooked in the prevailing tendency toward generalization of roentgen-ray treatment. This serious risk I have emphasized before[1] in an article in which I mentioned the case of a young girl in the early twenties. We contemplated radiation for a large uterine fibroid, but for certain reasons decided to operate, and on microscopic examination found the tumor to be a fibrosarcoma. It is of great interest to note this patient's subsequent history, reported by Dr.

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* Read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Seventieth Annual Session of the American Medical Association, Atlantic City, June, 1919.

1. Stein, Arthur: The X-Ray Treatment of Uterine Myomata: A Warning Based on a Study of the Literature, M. Rec. **89**: 991 (June 3) 1916.

Vineberg at the meeting of the New York Obstetrical Society in January, 1919:

About two and a half years after the first operation she came to the Mount Sinai Hospital with the complaint of pains in the lower abdomen, and two masses were found behind the cervical stump. At operation both these masses were found to be retroperitoneal, a considerable distance from the cervical stump, and lying deep in the abdominal cavity. They were both removed, and were found, on microscopic examination, to consist of myomatous tissue showing sarcomatous elements.

Dr. Vineberg quite rightly emphasized the importance of this case, for we had here the recurrence, extraperitoneally, of a myosarcoma after its removal from the uterus, in contradistinction to the belief that a myoma of the uterus, with sarcomatous elements, is not truly a malignant growth and seldom or never recurs or gives rise to metastatic growth.

It is, of course, impossible to recognize incipient or even advanced malignant changes of a myoma within the uterus. Its benign character is taken by the radiologist entirely "on faith." As Tracy[2] puts it, he is indeed to be congratulated if he can in every case determine when malignancy is present, or when the tumor is undergoing degenerative changes.

DIFFICULTIES OF DIAGNOSIS

The unrecognizable degenerative changes present in these tumors, as well as the associated pathologic conditions in the adnexa, have very recently been emphasized by Le Roy Broun[3] as contraindications to roentgen-ray treatment. The absence of malignant change can be reliably established only with the assistance of curettage, permitting exclusion of a concomitant carcinoma of the uterus.

As is well known, however, it is in many instances absolutely impossible to perform a probatory curettage of the uterus because of the fact that the uterine cavity is entirely obstructed by an intramural myoma. In these cases we are unable to determine by microscopic examination whether or not sarcomatous changes are present in the tumor or carcinoma of the body of the uterus exists. No gynecologist, no matter how skilful a diagnostician he may be, is safe from the danger of mistakes in these cases. Furthermore, old, hardened pus tubes lend themselves to confusion with uterine myoma. Even sarcoma of the ovary may be mistaken for a fibroid growth.

Two examples of mistaken diagnosis recently came to my attention, and in both instances the patients were examined by several well trained diagnosticians, who all agreed that each patient had a simple myomatous tumor. When the first was operated on, the hard, regular mass was found to be not a myoma but a very old and large pyosalpinx sac, firmly adherent to the normal sized uterus. The second patient was a woman aged about 45, with two large tumors on each side of the uterus. These tumors were hard and easily movable and were thought to be subserous myomas of the uterus, whereas, on operation, the uterus itself was found to be perfectly normal in size and shape, and the tumors were found to belong to the ovaries. Each tumor was found to be about the size of a man's fist and nowhere adherent, and, on microscopic examination, both proved to be spindle-cell sarcomas.

The case of a fibroid tumor associated with adenocarcinoma of the uterus in a woman aged 54, reported by Dr. Vineberg at the November, 1918, meeting of the New York Obstetrical Society, is also of interest in this connection. There was absolutely no reason to suspect malignancy until the extirpated uterus was opened, and evidence of extensive adenocarcinoma of the endometrium was discovered, requiring a second operation.

The statement of Stern[4] to the effect that all uncomplicated cases of uterine fibroids are amenable to roentgen-ray treatment is thus seen to be open to the very serious objection that about 50 per cent. of the cases are complicated, as I shall show in my own material, and that it is not possible at the present state of our knowledge to acquit a given uterine fibroid of all suspicion in this respect.

DANGERS OF DELAY

In view of the high percentage of associated malignant disease, Deaver[5] distinctly challenges any form of treatment tending toward delay. Many degenerative changes were discovered at the time of operation in his series of cases; of the last 513 myomas, 111 showed hyaline degeneration; hemorrhagic, necrotic or calcareous changes, or a combination of these, were found in twenty-six others. Pus tubes were noted fourteen times. Eight uterine fibroids were associated with cancer. Sarcoma of the ovary was also represented. Several associated ovarian cysts, when operated on, already showed early malignant changes. The exposure of these patients to carcinoma or sarcoma through postponement of surgical intervention, aside from a possible deleterious influence of radiotherapy through stimulation of tumor cells, is too serious and far reaching to be condoned by the conscientious gynecologist.

In my article,[1] previously mentioned, I have warned against the possibility of starting proliferative changes of a degenerative character in those cell areas of a radiated myoma which are not destroyed by the roentgen rays. Undoubtedly, in the case of sarcomatous tumors of both ovaries just referred to, which was diagnosed as myoma, the sarcoma would have been stimulated by the roentgen rays with disastrous results. The enumeration of similar instructive cases could be indefinitely prolonged. Tracy[6] pointed out some years ago, on the basis of solid arguments advanced against roentgen-ray treatment of uterine fibromyomas, that with few exceptions the only rational treatment is early surgical intervention, for a certain percentage of these tumors undergo various forms of degeneration which may positively be hastened by the application of the roentgen rays, and other myomas are complicated by malignant disease in the genital organs.

The corroborative observations of others have naturally served to confirm me in the very decided stand I have previously taken against the roentgen-ray treatment of uterine myomas, for nothing has been brought forward to cause a change of attitude on my part. I am still convinced of the superiority of surgery, and find my experience supported by that of prominent gynecologists and surgeons, both in this country and in Europe.

2. Tracy, S. E.: Report of One Hundred Consecutive Cases of Fibromyomata Uteri Subjected to Operation, J. A. M. A. **67**: 1213 (Oct. 21) 1916.
3. Broun, Le Roy: A Review of the Uterine Myomata Operated on at the Woman's Hospital during 1918, Comprising 262 Cases, Am. J. Obst. **79**: 333 (March) 1919.
4. Stern, S.: X-Ray Treatment of Uterine Fibroids, Am. J. Obst. **72**: 396 (Sept.) 1915.
5. Deaver, J. B.: Operative Treatment of Fibromyomatous Uterine Tumors, J. A. M. A. **67**: 1216 (Oct. 21) 1916.
6. Tracy: Pennsylvania M. J. **28**: 353 (Feb.) 1915.

LIMITATIONS AND FAILURE OF RADIATION

The question of radiation versus surgery in uterine myoma was recently discussed by Cernezzi,[7] in Italy, whose findings are much in conformity with my own. He pointed out that not a few gynecologists, and the great majority of general practitioners, adopt and recommend a passive attitude, with more or less reliance on the roentgen rays in patients at or near menopause, waiting for its favorable influence on the tumor. According to these Italian statistics, there is good reason to modify this optimism, for in no less than 68 per cent. of his patients who had been radiated elsewhere, the symptoms of the myoma reappeared or became aggravated, with the result that operation was requested by the patients themselves. These statistical figures are of great practical importance, as the artificial menopause induced by radiotherapy is often credited with the cure of uterine myoma. It is admittedly unwise to wait for the problematic benefits of the natural change of life in the presence of well marked symptoms, or of severe and repeated hemorrhage due to a myoma.

Le Roy Broun,[3] in a review of the uterine myomas operated on at the Woman's Hospital in New York during 1918, comprising 262 cases, is led by the excellent end-result of surgery applied to a series of consecutive cases to raise the very urgent question whether this record can be equaled by roentgen rays applied for the purpose of absorbing or curing the myoma. The roentgen ray, in his judgment, should be used in myomas only for the purpose of controlling hemorrhage, and then only when the contents of the pelvis can be mapped out clearly.

The assertion that fibroid tumors disappear under the influence of radiation cannot be taken seriously, according to Deaver,[5] whose findings entirely coincide with my own. Such patients still have their tumors, although the symptoms may have been relieved. He accepts the view of those who hold, like myself, that the roentgen ray has failed to demonstrate specific power over fibroid growths, and is capable of doing great harm through delay of the necessary radical treatment.

RESULTS OF OPERATION

The surgical treatment of uterine myoma is simple, efficient and safe. The patient wastes neither time nor money, and her expectations of rapid relief are not doomed to disappointment.

In my own experience, as covered by the clinical material of the last two years in the Harlem Hospital of New York, and the last twelve months in the Lenox Hill Hospital, as well as in private practice, the surgical treatment of uterine myoma in the form of myomectomy (twelve cases), supravaginal hysterectomy (eighty-nine cases), vaginal hysterectomy (one case), and total hysterectomy (eighteen cases), in all 120 cases, was attended by very favorable results and a low mortality.

Age of patients.—The youngest two patients were 23 years of age. Very massive doses of radioactive substances would have been required, involving a permanent loss of ovarian function. The oldest patient was a woman, aged 62, with large multiple fibroids which had undergone necrotic changes and partial calcification.

7. Cernezzi, Aldo: Riforma med. **34**: 233 (March 23) 1918.

Complications of Uterine Myomas.—These were represented by a variety of findings. Needless to say, a simple diagnosis of myoma was rendered in the majority of the cases, not of accompanying pus tubes, for example, on account of the large size of the myomatous tumor.

COMPLICATIONS OF UTERINE MYOMA

	Number of Cases
Single or double pyosalpinx	26
Acute or subacute appendicitis or retrocecal, adherent appendix (not including chronic appendicitis)	18
Large ovarian cyst, single or double (including dermoid)	17
Ectopic pregnancy	1
Hydrosalpinx or hematosalpinx	12
Intra-abdominal adhesions	8
Gallstones	2

The associated complications of uterine myoma in my series of cases are given in the accompanying table. These complications occurred, single or combined, in sixty-one cases, or 50.8 per cent. This percentage is much higher than those reported by other observers, such as Tracy[6] (33 per cent.); but it is easily understood when consideration is given to the type of material we get at Harlem Hospital (a city hospital) at which the most desperate and complicated cases are received. This also explains our comparatively high mortality. We had four deaths, or 3.3 per cent., three of which occurred at Harlem Hospital in very complicated cases.

Mortality.—The entire series of 120 cases included four deaths, or 3.3 per cent.

One occurred in private practice in a woman, aged 39, with a very large myoma, large left pus tube and large right-sided ovarian cyst with many old adhesions, who died very unexpectedly on the sixth day after the operation, from acute cardiac dilatation. Her heart had been normal up to that time.

Another fatal case was one of very large multiple fibroids, complicated by early pregnancy, in a woman, aged 28, who was stuporous after the operation (total hysterectomy) and died without regaining consciousness. The actual cause of death could not be ascertained, as a necropsy was not obtainable.

A woman, aged 40, with a large fibroid and complications in the form of left pyosalpinx and dense adhesions of intestine and omentum, succumbed to hypostatic pneumonia forty-two hours after the operation.

Embolism was responsible for the death of a patient, aged 37, who, on the twelfth day following the removal of a large fibroid complicated by double pyosalpinx, cystic ovaries and appendicitis, was suddenly attacked by pains in the chest and died three minutes later.

Convalescence.—In the case of a woman, aged 40, with a large intramural myoma and many firm adhesions due to former operations, recovery was delayed by postoperative, acute dilatation of the stomach; but this was successfully controlled. Postoperative bronchopneumonia occurred in two cases. Thrombophlebitis of the left femoral vein was noted in a woman, aged 33, after supravaginal hysterectomy for multiple fibroids, which were complicated by acute salpingo-oophoritis.

Retention of urine occurred after the performance of supravaginal hysterectomy in a case of giant, multiple myoma, complicated by dermoid cyst, in a woman, aged 34. Another patient, aged 50, with a large intramural myoma and subacute appendicitis, complained of backache and passed gravel and blood following the performance of myomectomy. In a case of a large,

inflamed, soft fibroid complicated by unilateral pyosalpinx in a woman, aged 30, supravaginal hysterectomy was followed by a stump exudate, which was successfully treated by incision and drainage. Superficial cutaneous infection occurred in two instances after supravaginal hysterectomy for multiple fibroids complicated, respectively, by chronic, bilateral salpingo-oophoritis, and by adherent retrocecal abscess.

Microscopic Findings.—The tumors were plain and simple myomas in the great majority of the cases. No instance of sarcomatous degeneration occurred in this series; but this was purely accidental, for sarcoma was demonstrated in myomas shortly before and immediately following our series. Hyaline degeneration of uterine fibroids was repeatedly demonstrated, and minor changes of a hemorrhagic or necrotic type were exceedingly common.

It has been my good fortune of late to operate, in private practice, on several patients who had received quite extensive roentgen-ray treatment without having been cured by it.

One case of special interest was that of a woman, aged 34, who had been sent by a New York gynecologist to a roentgenologist with a diagnosis of uterine myoma. After receiving roentgen-ray treatment the hemorrhages stopped for a few months, only to return again with increased severity. When I saw the woman, she was very much exsanguinated, and examination revealed a uterine myoma about the size of a man's fist. She submitted to a supravaginal hysterectomy and, I am glad to say, is in excellent condition at the present time.

Another case was that of a woman, aged 40, who had previously undergone three laparotomies, one for appendicitis, one for double salpingitis, and the third for a cyst in the right ligament and right oophoritis. She had been seen by another gynecologist, who made a diagnosis of a large myoma of the uterus and advised roentgen-ray treatment. In this case, also, the hemorrhages disappeared for a short time only to return again, and when I saw the patient I made a diagnosis of a uterine myoma the size of a man's fist and advised a supravaginal amputation. This operation was performed under extraordinary difficulties because of the fact that, in consequence of the three former laparotomies, there were tremendous adhesions between the intestines themselves and between the uterus and intestines. Because of an acute dilatation of the stomach on the fourth day, the patient made a rather stormy convalescence, but is now in excellent health.

POSSIBLE CONSEQUENCES OF RADIATION

When those strong adhesions between the intestines themselves, and between the uterus and intestines, are found, it is wise to consider their bearing on roentgen-ray treatment. Fixed at one point by adhesions, the same portion of the intestine is continually exposed to the strong roentgen ray, risking destruction of the intestinal mucosa, which might in turn lead to intractable diarrhea.

In my previous contribution[1] to the subject, some space has been devoted to the occurrence of intestinal lesions as a sequel of radiation, and I have quoted a number of French investigators who produced intestinal lesions through roentgen-ray applications in animal experimentation.

In a comparison of the operative and radiotherapeutic treatment of uterine myoma, Case[8] arrived at the conclusion that the ray treatment should not be used when time is a factor, and that it cannot be used with safety in rapidly growing tumors, in fibroids complicating pregnancy or when serious disease exists in the tubes or ovaries. Mayo[9] emphasized that this type of treatment in myomatous disease is destructive, nonoperative, but not conservative. The function of the ovaries, tubes and uterus is lost in practically all cases in which uterine myomas completely disappear under this treatment. No radical treatment of myoma by roentgen rays is possible without sacrificing the ovaries, thereby exposing those patients below the climacteric age to physical and nervous changes of an undesirable kind.

At best, the radiated patient retains her tumor, although the symptoms may be relieved. My views are in thorough agreement with those of Deaver,[5] as quoted above, and other authorities such as Tracy,[2] Frank,[10] Mayo[9] and Case.[8]

The operation for fibroid tumor of the uterus, as pointed out by Deaver,[5] and confirmed in my own experience, is one of the most satisfactory in all surgery. The mortality in his last series of 750 operations was only 1.73 per cent. Tracy's report[2] of 100 consecutive operations for uterine fibromyoma records a primary operative mortality of 2 per cent., while mine is 3.3 per cent. for reasons given above.

According to the preceding statements, it is evident that I am still an adherent of operative procedures in the treatment of uterine myoma and do not advocate, in these cases, any form of roentgen-ray treatment except with those cases in which operative interference is contraindicated, such as chronic cardiac or nephritic cases, and in those instances my preference would be for radium.[11]

CONCLUSION

I do not deem the roentgen-ray treatment of uterine myomas a safe procedure for the following reasons:

1. It is impossible to determine whether the growth to be dealt with is a benign or a malignant tumor.
2. My statistics show that about 50 per cent. of all myoma cases are complicated by pus tubes, hydrosalpinx or hematosalpinx, acute or subacute appendicitis, ectopic pregnancy, etc.
3. In young women who have not reached the menopause, the roentgen ray is almost certain to destroy the function of the ovaries, resulting in a premature menopause.
4. The continued application of the roentgen ray is apt to have a deleterious effect on the intestinal mucosa.
5. My experience has shown the surgical treatment to be the safest (with only 1 to 3.5 per cent. mortality), quickest, and most reliable method at our command.

48 East Seventy-fourth Street.

8. Case, J. T.: Comparison of the Operative and Radiotherapeutic Treatment of Uterine Myomas, Surg. Clinics, **1**: 579 (June) 1917.

9. Mayo, W. J.: Myomas of the Uterus; with Special Reference to Myomectomy, J. A. M. A. **68**: 887 (March 17) 1917.

10. Frank, R. T.: The Choice Between Operation and Roentgenization of Uterine Fibroids, Am. J. Obst. **72**: 408 (Sept.) 1915.

11. In addition to the references already given, the following will be found of interest:
Moeller, W.: Fibromyoma Uteri, Svenska Läk.-Sällsk. Handl. **44**, No. 10, p. 181, 1918.
Oliva, L. A.: I raggi X e il radium nella cura dei fibromiomi dell' utero, Gazz. d. osp. **39**: 345 (May 2) 1918.

ABSTRACT OF DISCUSSION

Dr. George E. Pfahler, Philadelphia: It is quite natural that in an audience composed of surgeons and gynecologists who operate, and of whom only a few are familiar with the roentgen ray and radium results, the sentiment should be in favor of operation. I disapprove of the radical position taken by Dr. Stein. It is my practice to treat the patients referred to me by gynecologists, depending on their diagnosis. Patients coming to me without a diagnosis are

advised to go to a gynecologist for such diagnosis. The great objection to roentgen-ray treatment of fibroids of the uterus seems to be the danger of malignancy and the difficulty of diagnosing malignancy. The single case which the author presented in which recurrence followed operation is a good argument against his own procedure. I have treated 150 patients and not one developed malignancy since. If from 7 to 10 per cent. of all fibroids are malignant what has become of those which I have treated by the roentgen rays? Where are the ten to fifteen cases of carcinoma that should have developed in these cases? What has become of the 200 or more cases of malignancy that should have developed in the thousands which have been treated and reported by roentgenologists? They have not developed. I do not say that to give the idea that we should be careless in diagnosis, but let us not be too radical. Let us give the patients the advantage of the best treatment. If we allow the gynecologist to decide which cases shall be treated by radium or roentgen rays we shall be on safe ground. I can give that advice to every roentgenologist. Only two out of the 150 patients I have treated had to have operations later on account of complications. These two developed pelvic abscesses requiring incision and drainage through the vagina. These two at least had this complication at the beginning of treatment. In one woman who was very fat and in whom the doctor had diagnosed myocarditis, operation was contraindicated. The other patient had a marked anemia which forbade operation. Both were inoperable cases. I do not believe that we should go to the other extreme any more than that we should say that all cases ought to be treated by the roentgen ray. The tumors do disappear under roentgen-ray treatment.

DR. J. RIDDLE GOFFE, New York: I am very glad that Dr. Stein has read this paper, for I think the whole tendency of the discussion was in favor of the roentgen-ray or radium treatment. The operative work has not been emphasized sufficiently. I recall when operations on fibroids were very disastrous. Many of us can recall when the fatality was more than 50 per cent. We must bear in mind that during the last few years operative results have improved. Dr. Le Roy Broun has given us a record of 262 cases of fibroid tumor operated on by twelve or fifteen different men during 1918 with a death rate of only 1.53 per cent. Analyzing the cause of death we find that there were complications which would undoubtedly have been very serious following the application of radium and they might have been quite as fatal. Therefore complications are a large factor in fibroid cases and can be relieved only by operative procedures. I am in favor of adhering to the operative procedure. The dangers and discomforts of the radium treatment have not been emphasized sufficiently. In contrast, the operative procedure is more simple.

DR. JOSEPH B. DE LEE, Chicago: I would like to ask those who have used radium whether any woman in their practice has become pregnant after the radium treatment. In three cases in which I used radium to preserve the uterus with the view of rendering possible a pregnancy, I have not yet been able to report such an occurrence.

DR. THOMAS S. CULLEN, Baltimore: I have listened with much interest to the discussion of Dr. Stein's paper particularly that in reference to the part played by the roentgen ray. One of the gentlemen has told us that there is malignancy in from 7 to 10 per cent. of the cases he has treated, and further, if I mistake not, that these patients have been sent to him by gynecologists. This percentage is far afield from what Dr. Kelly and I have obtained in a careful examination of nearly seventeen hundred cases. In about 1.3 per cent. we found carcinoma of the cervix, in 1.7 per cent. carcinoma of the body of the uterus and in 1.2 per cent. sarcoma developing in or associated with the myomas. Thus in about 4.2 per cent. we have found malignancy. In those cases where carcinoma of the cervix is present the gynecologist will, as a rule, hardly refer the patient to the roentgenologist, and in a certain percentage of the cases where adenocarcinoma of the body exists with the myoma the diagnosis will also be made. In these cases likewise the surgeon will deem operation the wiser procedure. If we deduct these cases there will remain at the outside from 2 to 2.5 per cent. where the use of the roentgen ray or radium will be considered as a factor in the treatment. Radium and roentgen ray are without a doubt destined to play a large rôle in the treatment of fibroids. In a few years sufficient data will be available to enable us to crystalize our views on the subject. We will then be able to tell fairly accurately when to operate and when to advise roentgen ray or radium treatment.

DR. HENRY SCHMITZ, Chicago: I had a patient, 42 years of age, who came to the clinic suffering with severe menorrhagia. Refusing any operative procedure, she was treated by radium. Nine months afterward she became pregnant and gave birth to a perfectly healthy child at full term. The infant is now five years of age and has no defect of development.

DR. PETER B. SALATICH, New Orleans: I do not know anything about radium for fibroids, my experience being principally on the operative side. We lose very few cases by operation for fibroids and our results have been uniformly good. When we operate on a patient she generally convalesces well and that is the end of it. In many cases where radium is used, the patient is relieved partially for a time and then must go back and have the radium reapplied. I have seen two or three cases, one especially, with very disastrous results. In one case there seemed to be a friability of the tissues and the rectum was opened in separating adhesions. We had to drain and following this there was a fistula. I think radium should be limited to cases which are inoperable, when the heart is so bad that you do not care to take a chance or the patient is so anemic that you merely want to tide the patient over and operate later. I believe that syphilis plays some part in the causation of fibroids. Many cases of fibroids occur in young women and often in unmarried ones. Many married women who have fibroids are sterile. I find that a larger percentage of fibroids occur in the negro race than in the white. You find more syphilis in the negro for the same reason that you find keloids there, the cause of which we know very little about. The heart complications are frequent in fibroids. In 25 per cent. of heart cases in which you cannot get a positive history of infection you find either a positive or weakly positive Wassermann. I have had a Wassermann made in every case of fibroids in the negro and the reaction was positive. Not every negro woman, however, with a positive Wassermann has a fibroid, although the large majority having fibroids show a positive Wassermann. I merely mention this fact because we are all anxious to know the cause of fibroids.

DR. LE ROY BROUN, New York: As to the sarcomatous changes in fibroids referred to by Dr. Clark, our experience in nine years in the Woman's Hospital gives us seven cases out of 1,760 consecutive cases in which we operated, a little less than four-tenths of 1 per cent. This is in keeping with what Dr. Clark has said and is rather opposed to the figures usually stated in the literature which give the percentage as 1.5 to 2 per cent.

DR. C. N. COWDEN, Nashville: We all know what our results are in operations for fibroids. In radium treatment, however, tissue is left behind. What the future of that tissue is going to be when the patient undergoes retrograde change, say at 60 years of age, we do not know.

DR. MILES F. PORTER, Fort Wayne, Ind.: I think it important to bear in mind that on the side of the question of operation we have some adequate and definite facts. On the other side, we have some very suggestive facts. Our attitude in regard to the application of the roentgen ray to fibroids should be what it is in regard to cancer. It occurs to me that there is no question but that the proper thing to do with a fibroid, other things being equal, is to take it out. Just as we do in cancer, we should call in a consultant and if there is any reason why operation should not be done the roentgen ray should be tried. In the meantime we must not forget that it seems to be proved very conclusively that mild doses of the roentgen ray increase the rapidity of growth of all sorts of malignant tissue. It has been proved rather

definitely by Kimura that mice carcinoma and sarcoma subjected to these mild degrees of radiation will grow with greater rapidity when grafted into other mice than they will when not exposed to this mild current; and, on the other hand, if they are exposed to rays of greater strength the growth is so inhibited that the grafts do not take at all. So that in the application of this method of treatment these facts should be borne in mind and the roentgenologist or radiologist should know pretty definitely whether he is dealing with a case which is malignant or one which is not malignant and the dosage should be applied in accordance with these facts. In the meantime, until we have something more definite we should go along the old lines. With a death rate of not more than 1 per cent. in uncomplicated cases, these patients should be subjected to operation unless there is some particular reason why they should be treated by roentgen ray or radium.

Dr. Arthur Stein, New York: Dr. Pfahler is to be congratulated on having such splendid results, but the question arises, Are these results obtained in all cases? As stated in my paper, I had three cases in which I operated after the roentgenologist had pronounced the patient cured because they had stopped bleeding for three or four months, only to bleed again much more than before. They are cured now after an operation. To my mind the whole question comes to this: We have all to improve on our diagnosis, so that we can rule out in each case with absolute certainty whether it is a simple myoma or one complicated by some other disease. If we can do that, then surely all the cases amenable to radium treatment ought to be treated by radium and not by roentgen ray.

ALTERNATING PERIODIC OVARIAN SWELLINGS *

EMIL RIES, M.D.
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From time to time certain abnormal conditions of the ovaries have been reported in isolated and unconnected observations, and it is my purpose in this article to endeavor to explain these and to link them up into a connected whole.

There are four types of cases which, I think, may be properly treated under this head. Descriptions of the first three types may be found in the literature, and I have encountered them in my own practice. These four types may be thus briefly described:

TYPE 1.—THE VANISHING TUMOR

On examination of a patient, a cystic tumor, at the side of the uterus, of the size of a hen's egg, or larger, is found. The tumor suddenly breaks under the examining hand. The patient may have had some irregularity of menstruation and some pain. Pus tube or extra-uterine pregnancy may have been suspected and it is feared that rupture of the tumor may produce serious results. The patient is rushed to the operating room and an incision is made. A little serous fluid (sometimes blood-stained) is found in the abdomen. Both tubes are discovered to be normal. One ovary shows a ruptured cyst, the thin walls of which on examination prove to be those of a corpus luteum cyst, with more or less lutein layer in its walls.

TYPE 2.—THE FALSE EXTRA-UTERINE PREGNANCY

A patient with more or less irregularity of menstruation, at times absolutely of the type found in extra-uterine pregnancy, comes for observation and presents a soft cystic tumor at the side of the uterus. Other symptoms of pregnancy may be wanting or not decisive, one way or the other. The hemorrhage is most likely to suggest extra-uterine pregnancy and may be so protracted that it seems advisable to operate. Accordingly, the incision is made, but both tubes are found normal. Instead of an extra-uterine pregnancy a corpus luteum cyst in one or both ovaries is disclosed, usually with a thick lutein cell layer, often with chocolate-colored hemorrhagic contents in one or both ovaries. With the removal of the cyst or cysts all symptoms promptly cease. The pathologic examination shows a corpus luteum cyst or cysts.

TYPE 3.—THE TUMOR WHICH DISTURBS THE PEACE OF THE COMMUNITY

The patient consults Dr. A in regard to certain pains in the abdomen, with or without much menstrual disturbance. The physician tells her she has an ovarian cyst on the right side and should have it operated on. After a few days, the patient consults Dr. B for confirmation of the diagnosis. He examines her and assures her that there is no tumor at all. The patient is now thoroughly disturbed and seeks the advice of a third physician, Dr. C. He examines her and tells her that she has an ovarian cyst; that it is not, however, on the right side, but on the left side. The amount of ill feeling created between practitioners themselves and their patients by such an occurrence may readily be imagined. In a case of this kind, which came under my observation three years ago, I advised the patient to have no operation for the time being and she is still alive and well. Further observation has proved that her case comes under Type 4, as I could suspect from her story. It was owing to my observations on Type 4 that I was able to treat the patient conservatively and my colleagues with sympathy who had made diagnoses differing from my own.

TYPE 4.—ALTERNATING PERIODIC OVARIAN SWELLINGS

This type I have named alternating periodic swellings of the ovary. I gave my first description of it in 1913.[1]

This group has now been studied in over a dozen cases since my attention was first directed to it in 1906. In three of the cases I have operated and have thus secured material for pathologic investigation. A number of cases have been observed in which the condition was present in a rudimentary way. In the case of the three patients operated on, and of some who were not operated on, my observations extended over several years: In Case 1 from 1906 until the operation in 1913; in Case 2 from 1910 until the operation in 1918, and in Case 3 from 1916 to the present time. Without this protracted observation in these cases and in a number of those not coming to operation, it would have been impossible to establish this clinical entity.

REPORT OF CASES

The first case of this kind to come under my observation was one in which the picture was presented in the most pronounced colors and may therefore deserve a more extended description:

Case 1.—*History.*—When the patient first presented herself, she was 41 years old. She had had no previous sickness.

* Read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Seventieth Annual Session of the American Medical Association, Atlantic City, June, 1919.

1. Festschrift for Prof. Freund and Ztschr. f. Geburtsh. u. Gynäk.

She had had a normal pregnancy, labor and puerperium at the age of 27. Her menstruation had always been regular, of three or four days' duration, with moderate loss of blood and without pain. In the summer of 1905, while on a European trip, she was taken ill with a severe inflammation in the abdomen. After several weeks of treatment she improved so far that she could return to America. A letter of the colleague who had treated her reported that she had considerable swelling of the right adnexa when she left him.

My first examination, Feb. 28, 1906, found the patient well nourished, with normal temperature, and all of her organs normal with the exception of the pelvic organs. The pelvic organs showed slight laceration of the perineum; moderate cystocele and rectocele; uterus large, hard, anteverted, movable; the right adnexa thick and adherent, barely sensitive; the left adnexa not enlarged, but not freely movable.

The conservative treatment that had been begun in Europe was continued, and the patient presented herself frequently for examination. In the course of several years the following observations were made:

March 15, 1906, the right adnexa were smaller. April 17, there was a feeling of heaviness and fulness in the right hypogastrium. The patient had just finished a copious menstruation of three days' duration. The right ovary was the size of a goose's egg. The left adnexa were adherent, but not enlarged. May 15, the patient reported that moderate menstruation had begun April 26 and had lasted three days. The right ovary was slightly thick. October 8, menstruation was reported regular. The findings were the same as last time. November 12, the right adnexa were quite small.

Jan. 28, 1907, the right adnexa were larger than a hen's egg. March 21, the condition was the same as last time. May 14, both adnexa were quite small. Menstruation was regular. June 17, the condition was the same as in May. November 8, there was pain in the back and in both hypogastria. Both ovaries were large, especially the left one, which was fully as large as a hen's egg. November 14, there was less pain. Both ovaries were small.

March 31, 1908, there was at times discomfort in the abdomen. This had been true more especially for a few days previously. Both adnexa were thick, and enlarged. Menstruation was regular. June 16, there were no symptoms. The adnexa were quite small. In October, 1908, menstruation was a few days early, and lasted three days. There was no pain. The right adnexa were larger than a hen's egg; the left adnexa were small. October 8, the right adnexa were the size of a hen's egg. October 26, there was no swelling at all. December 24, there was again pain in the abdomen. The right adnexa were the size of a hen's egg, and were slightly sensitive.

April 16, 1909, there had been pain in the abdomen for two days. There was a large swelling of the right adnexa, which appeared the size of a fist. There was a slight thickening on the left side.

In April, 1909, there was no swelling. May 12, the uterus was thick, and both adnexa were small. June 25, there was no swelling.

March 21, 1910, both adnexa were thick. Menstruation was regular. May 25, both adnexa were small. December 15, there was a right tumor the size of a fist, and a left swelling the size of a hen's egg. December 27, the left adnexa were quite small, and the right adnexa were the size of a hen's egg.

Jan. 3, 1911, there was no pain. The right adnexa were quite small, and the left adnexa were larger than a goose's egg. February 27, both adnexa were small. April 22, there was some drawing pain in the abdomen. The right ovary was somewhat large, and the left appendages were normal. May 24, the adnexa were small. July 3, the adnexa were small.

March 18, 1912, there was pain in the right hypogastrium. Menstruation was regular. The uterus was thick. On the right side was a distinctly cystic mass larger than a fist. The left adnexa were quite small. March 27, menstruation was reported as having occurred between March 22 and 25. There was a tumor on the right side of the same size as at the last visit. April 5, the right ovary was quite small. April 23, menstruation was reported as having occurred between April 12 and 15. The right adnexa were quite small; also the left adnexa. May 28, the condition was the same as at the last visit. July 2, menstruation was reported as occurring between June 10 and 13. The left adnexa were enlarged; the right adnexa were small. December 27, the patient reported that for several weeks she had had pain in the left knee. The left adnexa showed a tumor the size of a fist. An examination of the knee revealed nothing of a pathologic nature. Menstruation was reported as occurring, Dec. 7-10.

Jan. 2, 1913, there was a swelling on the right side the size of a fist. The pain in the knee was reported as at the last visit. January 10, menstruation was reported as having extended over three days. The pain in the knee was better. On the right side the adnexa were the size of a goose's egg; the left adnexa were only slightly enlarged. January 15, there was no swelling on the left side and only a small swelling on the right side.

Operation and Result.—After the patient had thus had thirteen right and seven left swellings, of which four had involved both sides simultaneously, and after the patient had frequently had considerable pain as a result of them, I proposed operative procedure.

The case came to operation, Jan. 20, 1913. The operative findings were as follows: There was a small left hydrosalpinx. The uterus was large. There was a fibroid the size of a walnut on the fundus. There was a small right hydrosalpinx in adhesions, and a small right ovary. There was a left ovarian tumor consisting of multiple cysts with clear contents and thin walls. There were adhesions of the sigmoid to the left hydrosalpinx, of the bladder to the anterior wall of the left uterus, and of the rectum to the posterior wall of the uterus.

The operation consisted in the removal of the ovaries and tubes and supravaginal amputation of the uterus.

Inspection of the appendix disclosed a thin cordlike structure connecting the normal point of insertion of the appendix with a small white calcareous nodule at the end of which an appendix of normal appearance was seen. The cordlike structure was 1 cm. long. The appendix was removed.

The pathologic examination of the removed organs disclosed two more fibroids in the uterus, and a thick mucosa. There were small cysts with serous contents and a partially yellow, partially white wall in the right ovary. In the left ovary there were cysts of the same kind.

Microscopically the cysts were corpus luteum cysts of various sizes and varying structure as to lutein contents. The fibroids were simple white fibroids. The tubes showed fibrous condition of the folds, and no other inflammatory condition. The part of the appendix which on inspection appeared normal showed on microscopic examination complete obliteration without a trace of mucosa or follicles.

The patient made a smooth recovery. The pain in the left knee disappeared quickly and had not returned on the last examination in March, 1913. At this time the pelvis was free from tumors.

If before the operation on this patient some justifiable doubt might have existed as to whether the swellings concerned the ovary or the tube, such doubt could be excluded with absolute certainty in Case 2:

CASE 2.—The tubes of the patient had been removed in 1910. At this time both ovaries were left behind and their inspection in the course of the operation had shown the left one absolutely normal and the right one somewhat thick and containing some small cysts with serous contents. Before this operation the patient had had two swellings, one on the left side in September, 1910, and one on the right side, Oct. 6, 1910. After the operation, up to 1917, this patient had at least seven swellings on the right and four on the left—twice on both sides simultaneously. In 1917, a fibroid developed which caused severe hemorrhages and was operated on in November, 1918. At this time both ovaries were removed with the fibroid. They were embedded in extensive adhesions and contained a number of cysts with bloody and serous

contents, which, on macroscopic and microscopic examination, proved to be corpus luteum cysts of various stages.

In Cases 1 and 2 the symptoms which accompanied the swelling were a feeling of fulness in the hypogastrium, a bearing down sensation, backache, and in the first case, at one time, pain extending into the knee of the affected side.

In Case 3 the symptoms were somewhat more severe and showed the connection of this type of case with Type 2 as described above.

CASE 3.—This patient had a prolapse operation in September, 1916, after the method I have described elsewhere.[1] The patient made a good recovery.

Oct. 12, 1918, she reported that she had been flowing for a month without pain, that she felt nauseated, and that her breasts felt full. A week previously she had passed something like a membrane. The examination revealed a firm tumor to the right and behind the uterus. She was put under observation and reported, November 24, her last menstruation as occurring from November 1 to 8. The tumor was unchanged. As she had been sterilized in her prolapse operation and as I had never observed a pregnancy after any of my sterilizing operations, I should have been much surprised if the tumor had proved to be a tubal pregnancy. But as her symptoms certainly pointed toward this condition and as her pain was not relieved by conservative treatment, I advised operation and carried it out, Nov. 25, 1918.

The technic of the sterilization had been perfect. The tumor belonged to the right ovary. Both ovaries were perfectly free from adhesions, the right one being almost the size of a fist, the left one the size of a hen's egg. The right tumor contained chocolate-colored fluid. The right ovary was removed entirely The left ovary had healthy tissue at the base, and the tumor was excised and the ovary reconstructed by suture. The cyst of this side also contained chocolate-colored fluid. The patient made a good recovery.

Feb. 20, 1919, the patient returned. She had had her menstruation every twenty-three days since the operation, the last time February 11, lasting six days, copiously, with clots and pain in the left hypogastrium for two weeks. Examination detected now a cyst the size of a fist on the left side. The patient was advised to use hot baths. March 3, the swelling was the size of a hen's egg. As I could be positive that it was not a case of extra-uterine pregnancy, since I had observed the complete separation of the uterine cavity from the tubes and had recently seen that there was no infected tube, I simply burst the sac by sudden bimanual pressure. The maneuver produced no pain. I observed the patient for an hour, and in the absence of all untoward symptoms, I allowed her to go home. Sixteen days afterward she was still free from pain and had not menstruated. The left appendages were of normal size.

COMMENT

This was the first case in which I have deliberately broken such an ovarian swelling, a form of conservative treatment which I had contemplated for the relief of patients in whom operation was not desirable. As I had removed the right ovary from this patient; as she was less than 35 years old, and as I could feel certain of the nature of the cyst, this manipulation could be risked without undue hazard. If a patient who has been observed a sufficient period of time to establish the diagnosis on a sound basis, suffers from these alternating swellings and has considerable disturbance in consequence thereof but for some reason should not be operated on, this intentional rupturing of these cysts presents a simple method of relief, if only temporary. Otherwise, if the swellings continue to return, and especially, if ultimately the ovary does not go down to normal size between the swellings, but remains large and produces pressure symptoms, then operation is indicated, in order to give permanent relief.

1. Ries, Emil: Am. J. Obst. 77: 758 (May) 1918.

PATHOLOGY

While the question of treatment is comparatively easy to settle, a more difficult and interesting problem is presented by the pathology of the condition. Why do these ovaries swell? From the macroscopic and microscopic examination of these ovaries it is evident that the swelling has its seat in the corpus luteum and represents a cystic enlargement of this structure with contents of serum or blood. In the first two cases in which I operated, the ovaries were embedded in adhesions, and this suggested that the presence of the adhesions prevented the follicle from rupturing freely. But aside from the fact that everyday observation fails to show cyst formation in every case of adherent ovaries, the findings in the third case, reported here, prove conversely the possibility of cyst formation without any adhesions. However, of the cases that did not come to operation, of which a number have been observed for years presenting alternating swellings, a large majority presented adhesions.

The age at which the swellings occur was as low as 25 and (as in Case 1) as high as 48.

The relation of the swellings to the monthly periods is commonly so that the swelling is first noticed from eight to fourteen days before the menstruation and has more or less disappeared within three or four days after the menstruation. This periodicity caused the addition of the term "periodic" to the nomenclature of the clinical entity.

Many authors have reported periodic increase in the size of ovaries which were the seat of what they called chronic oophoritis; but I have not been able to find any description of a series of alternating cases anywhere in the literature. The microscopic findings in the organs removed in my operations resemble the descriptions of chronic oophoritis contained in the literature, but I fail absolutely to see any signs of inflammatory changes in the ovaries themselves, while the adhesions found on the outside of these ovaries can readily be explained independently of the ovarian condition (for instance, in Case 1 by the presence of an old appendical peritonitis).

The changes going on in these ovaries are dependent on the corpus luteum. Their effect may be simply due to the size of the cyst producing pressure symptoms, or, what is equally important, the effect is that of faulty corpus luteum function.

CHANGED CONCEPTION OF THE VALUE OF THE CORPUS LUTEUM

We have changed our conception of the value of the corpus luteum very much. Years ago the ovary was considered useful mostly for the production of ova. The corpus luteum was not understood. It was permissible then to consider it merely as a temporary false scaffolding which would keep the ovary from collapsing after the rupture of the follicle, if I may express it so crudely. Now we know that the ovary and the corpus luteum have special functions. We might compare the female sexual tract with a clock. The ovaries are the weights which make the whole machine go. The uterus might be compared to the hands and the corpus luteum to the regulating mechanism—say, the pendulum. The periodic function of the corpus luteum, same as the periodic swinging of the pendulum, keeps the appa-

ratus in rhythmic action indicated by the rhythmic menstruation. As soon as the pendulum gets out of order, the rhythm becomes disturbed; as soon as the corpus luteum becomes pathologic, we have irregularity of menstruation in one or the other direction. The function of the corpus luteum under pathologic conditions is a chapter which must be added to the old pathology.

CONCLUSION

It may be clear now why I have enumerated several types of puzzling clinical observations. It is evident that if we have such a patient with alternating periodic ovarian swellings and see her for the first time and break her cyst under our fingers, we cannot tell what we have broken. But when we are better acquainted with the abnormal periodicity of her ovaries, we can even go so far as to rupture her cyst intentionally and with beneficial results.

It may also become clear that Drs. A, B and C were all correct in their various diagnoses of right tumor, left tumor and no tumor, and that it might be wise to remember this clinical picture before upsetting the patient's confidence or injuring the standing or wounding the feeling of our brethren.

It may also be clear now how an irregularity of the corpus luteum may affect the menstrual function so that on the first examination a diagnosis of extra-uterine pregnancy may seem warranted, whereas a further acquaintance with the patient may (as for instance in Case 3) show the symptoms to be those of alternating periodic ovarian swelling.

ABSTRACT OF DISCUSSION

DR. EMIL NOVAK, Baltimore: The cases such as Dr. Ries reports are grouped under three special types, all attributed to some abnormality of corpus luteum structure. I think he is right in attributing this important rôle to the corpus luteum. That, of course, is the thing that undergoes cyclic change every month. The first case which he reported I think was simply a case of ruptured corpus luteum cyst. The second group of cases of which he spoke were those in which he found unruptured corpus luteum cysts. Such cases have been reported quite frequently in the literature, chiefly because they give rise to a picture simulating that of extra-uterine pregnancy. There are the symptoms of delayed menstruation, irregular or continuous bleeding and the presence of a mass. The most interesting group is the third, those cases in which was found the cystic condition regarded as due to the presence of corpus luteum cysts either with or without epithelial lining. I think it is open to question whether these were due to corpus luteum cysts or whether they were simple lutein cysts which are not genuine corpus luteum cysts. Such cases are best illustrated by the striking group of cases in which there are lutein cysts similar to those found in hydatid mole or chorionepithelioma. These cysts are not genuine corpus luteum cysts, and when we remove the hydatid cyst the tendency is for these ovarian cysts to vanish. Granulosum cells are not found in the genuine corpus luteum cysts.

DR. ALFRED BAKER SPALDING, San Francisco: The author spoke of these tumors appearing on one side and then on the other, accompanied by pain. I wondered whether in going back over the cases he did not find that patients had the large ovary without pain. That has been my experience. I have seen women with ovaries such as Dr. Ries described and have unfortunately operated on some of them, removing the ovaries. I have studied them in the laboratory and invariably found not only the corpus luteum cyst but that the ovary resembled an angioma. At operation I have seen the large veins running from these ovaries to form a varicocele. I have wondered whether many of the symptoms complained of might not be due to the varicocele that occurs in the broad ligament rather than to the cyst. These patients have been very difficult to handle in the matter of giving relief. I have frequently treated them for a number of years with hydrotherapy, and I have sometimes referred them to colleagues who were using high frequency or electrical treatment, and they have been relieved. Only surgery will give such patients real relief—suspending the ovary in a hammock by bringing enough peritoneal fold over the uterine ligament to give that ovary a bed. This gives relief for a time. I have reoperated on a patient who had a recurrence of a retroversion because of an improperly done operation to hold the fundus forward, and I found that those folds had become strings, like those Kelly described in his old operation of ventral fixation. With a good fixation forward, the support of the ovary will relieve the patient of the symptoms and let the corpus luteum go on through its function as it pleases. So long as the patient is not in pain she does not care. Without a good support of the fundus forward I do not believe any support of the ovary will relieve a congestion which causes the varicocele which is the condition causing the pain.

DR. PETER B. SALATICH, New Orleans: I have been making a study of this subject for several years. A patient will often complain during menstruation of more pain on one side than on the other. Examination of these patients a few days before menstruation will show the ovary to be larger at that time than a week or two after menstruation. In all cases in which I have removed both ovaries I plant a piece of ovary between the fat and the fascia and in many of these patients two or three days or a week before menstruation the ovary enlarges to two or three times the size of the piece planted. Sometimes just before menstruation the ovary will stretch and be as large as a lemon and in a week or two afterward the swelling will disappear and there will be no more pain or swelling. I had one patient who refused operation. She would have considerable pain, at times with temperature elevation. Then in two or three days there would be a discharge of pus from the vagina when the pain and swelling would disappear. This has occurred about half a dozen times, and finally the condition cured itself without an operation. You will find that the pain on the right side will come on every two or three months and that the menstruation will be more profuse and attended with greater pain than that of the previous month or two. Operation will probably show both ovaries to be cystic. The important point is that on the right side where the pain is greatest you will find that the ovary is probably worse than on the side where there is no pain. But if you are going to save the ovary on the side of which the patient complains, no relief is obtained; the pain will continue just as before. Therefore, I always make it a rule to study the patients carefully and remove the ovary on the side on which they do not complain of pain.

DR. EMIL RIES, Chicago: I wish to correct a misunderstanding. The swellings which I have described are not the swellings of an ordinary ovary, but often tumors the size of a fist or larger. There is not always pain; there may be just a little feeling of fulness. Sometimes I discover that the patient knows nothing about the presence of a tumor. The most important thing is that these tumors recur—not that there is a tumor. I am not talking of ordinary corpus luteum cysts—I am talking about returning tumors. The nature of the cysts was established by microscopic examination, of course. It is not necessary to go into the pathology of corpus luteum cysts. The important point is the return of the tumor. I am not speaking of the cyclic swelling of the ovaries mentioned in every good textbook. This is something new, not previously described anywhere.

Health Board Celebrates Centenary.—On March 18, the births and deaths department of the New Orleans Board of Health completed 100 years of service. In March, 1819, sixteen years after the Louisiana Purchase, the first death, "That of a free man of color," was reported by the Board of Health of New Orleans. The first birth was reported, March 25, 1919. The present recorder, P. Henry Lanauze, has held the position for forty-four years.

Clinical Notes, Suggestions, and New Instruments

TREATMENT OF SEASICKNESS

A. E. LEMON, M.D., SAULT STE. MARIE, MICH.
Major, M. C., U. S. Army; Surgeon, One Hundred and Twenty-Fifth Infantry

It has long been believed that seasickness is the result of the motion of the ship affecting the semicircular canals, the organ of equilibrium in the internal ear.

I was aboard the U. S. S. *Great Northern*, en route from Brest, France, to New York, May 2 to 9, 1919. This ship was carrying troops, and was making a record for the round trip to Europe. With her high speed and light forward ballast, although she pitched or rolled very little, she had a very pronounced plunging motion, with the rising and falling motion predominating. As a result of this accentuated rise and fall, about 90 per cent. of the troops, and a considerable number of the crew, were more or less seasick; and at least 700 were in very great distress.

I had put in three years in Newfoundland; had not been seasick for years, and was not sick at all on the trip to Europe, in February, 1918, when the sea was less smooth than on this trip. But as soon as we cleared from the harbor at Brest, I became, unexpectedly, very seasick. I had been careful to see to it that diet indiscretions, alcohol and lack of elimination were eliminated as a possible cause of seasickness in my case. And yet, at 4 p. m., May 4, I was more seasick than during the first twenty-four hours, with no indication of improvement. I felt a fine, indefinite sense of change of pressure on the ear drums, which, I may say, however, was not shown by a barometer in my room.

I reached for some sterile gauze, and, with the aid of a match, packed both external ear canals, packing against the eardrums. It took only a few minutes to find out that relief was immediate as soon as I had packed the gauze tightly enough so as to cause a decided sense of pressure in the ear canal.

I immediately began relieving others, being, officially, surgeon of troops aboard the ship, which gave me the right to treat every one I found sick. Although we were forty-eight hours out, I still found about 200 persons quite sick.

Further observation on the relation of the outer ear canal to seasickness shows that soldiers who were exposed to shell fire in Europe were almost without exception much more affected with seasickness coming back from Europe than they were going over. Surgeons on board ships carrying troops have told me that this observation is borne out in their experience. In my own case, I had both ear drums injured by shells exploding in two cases within 7 yards by measurement, and with only open space between me and the shell. I cannot otherwise account for the violent case of seasickness I suffered on leaving Brest, and which led, or rather forced me, to look for a new method of relief.

In collecting more information from those whom I was able to relieve on the trip across, I found several cases in which, after being relieved for several hours, the packing was removed from the ears, when the seasickness at once returned, and was again relieved by repacking the ears. The treatment was so immediately and positively effective in the cases on this ship that the only possible cause of failure on other ships would seem to be the unlikely but possible existence of more than one variety of seasickness.

AN IMPROVEMENT OF THE AEROPLANE SPLINT

FRANK W. ROMAINE, M.D. (WASHINGTON, D. C.)
Captain, M. C., U. S. Army
CAMP UPTON, YAPHANK, N. Y.

During the European war, many varieties of splints came into vogue. Some of them were resurrected from the discard, while others combined old ideas with new positions and arrangements. Among the various mechanical supports is the "aeroplane" splint used for fractures of the surgical and anatomic necks of the humerus, gunshot wounds of the shoulder involving the joint, and wounds of the outer end of the clavicle and spine of the scapula. This splint has been used to great advantage and with much comfort to the patient, both before and after operative procedure. But as devised it does not meet all the requirements of the long convalescence of these types of cases. A later style is open to practically the same objections, as it does not permit of the lowering of the arm with support in the axilla, the point at which support is most needed.

Figure 1 (the original splint) shows the rigid support, desired in the first weeks of convalescence, to maintain the arm and forearm at right angles to the body.

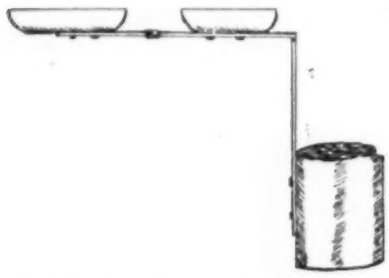

Fig. 1.—Original type of aeroplane splint; rigid.

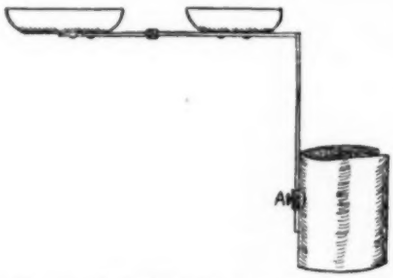

Fig. 2.—Second type of splint permitting lowering of arm by loosening thumb screw *A*; lowering occurs in the same plane as in rigid or first position.

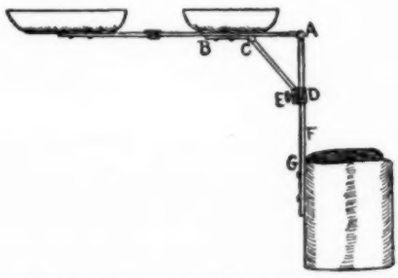

Fig. 3.—Improved splint permitting horizontal arm to be moved at any angle by loosening thumb screw *E* and sliding sleeve *D* up or down upright bar *F*. This is accomplished by hinges at points *A* and *C*.

Figure 2 shows the splint devised to permit the lowering of the arm and forearm. In this type the arm and forearm are lowered en masse by loosening the thumb screw (Fig. 2 *A*) and allowing the upright rod to slide down the desired distance, whereupon the screw is tightened. This permits of a relaxation at a point where support is most desired, and of a general sagging of the arm, causing a greater strain where support is needed most. This splint has been found to be undesirable, uncomfortable and painful to the patient.

In the improved splint (Fig. 3) as devised during the war and used on war wounds of the shoulder involving the head of the humerus, the clavicle and the scapula, a happier result is obtained. A greater degree of comfort is afforded the patient, a rest is established for the arm and forearm, and support is maintained in the axilla. The lowering and raising of the arm and forearm are executed without disturbing the dressings or requiring the removal of the splint.

At the angle formed by the horizontal and perpendicular rods (Fig. 3) a hinge is made (*A*). A band of steel (*B*) three-quarters inch wide and 2¼ inches long is riveted to the horizontal rod 1¼ inches from *A*. At point *C* is hinged a band similar to the first band, 2¾ inches long, connected at an angle of 45 degrees with a sliding double sleeve (*D*), which is fitted with a thumb screw (*E*) permitting the lowering and raising of the sleeve and the consequent movement of the horizontal arm support. The upright (*F*) between the points *A* and *G* is roughened, permitting the thumb screw (*E*) to bite and hold firmly.

A TRIAL FRAME FOR EYE MALINGERING

FRANK ALLPORT, M.D., AND JAMES R. SMITH, M.D., CHICAGO

In the detection of eye malingering we have adopted the old and simple method of inserting in the trial frame a strong convex lens on one side with a plano lens on the other, without the patient's knowledge of the relation of the lenses, and with rarely a suspicion that he is being subjected to a test for malingering. The strong convex lens, which excludes vision at a distance of 20 feet, is placed over the patient's good eye, with a plano lens over his supposedly injured or amblyopic eye. Then, with both eyes open, the patient is asked to read the letters on the test chart. Any resulting vision is very evidently the vision which the patient obtains with the supposedly defective eye. This is a very simple test, and demonstrates to what extent the patient sees with the eye in question.

There are numerous devices for the detection of malingering, many of which are complicated and confusing in their application. We have devised a convenient reversible spectacle frame, with a plus 6 sphere on one side and a plano

Trial frame for eye malingering.

lens on the other, which constitutes, to all intents, a pair of spectacles. There is a cross or X bridge which allows the glasses to be easily reversed and adds very much to the ease with which the test can be made. It is also more or less deceptive to the patient, even though he mistrusts that he is being made the subject of a malingering test. If one suspects that a person is malingering, one may simply place the trial frame on the face, with the convex lens over the good eye and the plano lens over the supposedly injured eye. One should observe the patient very closely to see that he does not close either eye, but that the test is made with both eyes wide open. As before stated, any resulting vision will represent the vision of the defective eye. An advantage of this trial frame is the ease with which it can be manipulated; that is, it can be removed and reversed, adding confusion to the patient.

Malingering is often difficult to detect, especially if a patient has been instructed to be suspicious of ocular examinations.

7 West Madison Street.

AN ANOMALOUS ABDOMEN

THOMAS B. NOBLE, M.D., AND SCOTT R. EDWARDS, B.S., M.D.
INDIANAPOLIS

Intra-abdominal anomalies are relatively rare. This conclusion is warranted, at least, by the literature. The fact that they are diagnosed, except in exceptional instances, only at operation or necropsy, limits our knowledge concerning their frequency of occurrence. Anomalies are encountered most often in the genito-urinary apparatus of the female. The case here reported is that of a woman having two distinct anomalies of the genito-urinary system, and one of the alimentary system.

REPORT OF CASE

History.—Mrs. J., a married white woman, aged 37, had had chronic constipation and long continued epigastric pain, accompanied by sterility. The present illness began two days before her admission to the hospital, with vomiting and epigastric pain. On admission the patient presented symptoms of acute intestinal obstruction. She was almost in collapse. Her appearance was cachectic, and a distinct tumor was palpable, which was taken to be the head of the colon.

Operation and Result.—A tentative diagnosis of cancer of the cecum with obstruction was made and she was operated on immediately under ether anesthesia. A wide exposure, made by a midline incision, revealed, to our surprise, these conditions: There was an absolute failure of rotation of the colon. The right kidney lay in the right iliac fossa with the renal pelvis lateral; the vessels came off just above the bifurcation and passed over the ventral surface to dip down into the kidney, and the ureter passed beneath the lower pole of the kidney. The uterus was approximately 1.5 cm. in width and 3 cm. in length; the remnant of the genital cord passed down as a fibrous cord to an infantile vagina. This rudimentary uterus was suspended by a very lax ligamentary support, and lay in the sac of a left inguinal hernia.

The acute symptoms were due to the character of the anomaly of the large bowel. The stomach and the first 6.5 centimeters of the duodenum were intensely injected and distended with gas. The condition terminated at a point of kinking in the duodenum at the beginning of a duodenal mesentery. The duodenum was freely movable on this mesentery and was not covered by peritoneum, but continued in a curve to the left into the jejunum uncovered by the transverse colon.

The weight of the small bowel dragging down on the duodenum was responsible for the kink. The entire length of the small bowel was approximately 3.5 meters. The entire course of the colon was to the left of the midline, the cecum lying in the left iliac fossa.

An anastomosis was made between the jejunum and the stomach around this duodenal kink, and the abdomen was closed. Vomiting persisted, notwithstanding every effort to control it. The patient died on the third day following the operation.

1008 Hume-Mansur Building.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

OLD TUBERCULIN (See N. N. R., 1919, p. 277).

Lederle Antitoxin Laboratories, New York.

Tuberculin "O. T." (*Old Tuberculin*).—Marketed in packages containing a stated amount of tuberculin with sufficient diluent to make 1 cubic centimeter as follows: Dilution A containing 0.1 Cc., Dilution B containing 0.01 Cc., Dilution C containing 0.001 Cc., Dilution D containing 0.0001 Cc., Dilution E containing 0.00001 Cc., and Dilution F containing 0.000001 Cc.

NEW TUBERCULIN, B. E. (See N. N. R., 1919, p. 280, and THE JOURNAL, April 19, 1919, p. 1136).

Lederle Antitoxin Laboratories, New York.

Tuberculin "B. E." (*Bacillary Emulsion*).—Marketed also in packages containing a stated amount of tuberculin with sufficient diluent to make 1 cubic centimeter as follows: Dilution A containing 0.1 Cc., Dilution B containing 0.01 Cc., Dilution C containing 0.001 Cc., Dilution D containing 0.0001 Cc., Dilution E containing 0.00001 Cc., and Dilution F containing 0.000001 Cc.

TUBERCULIN DENYS, B. F. (See N. N. R., 1919, p. 280, and THE JOURNAL, April 19, 1919, p. 1136).

Lederle Antitoxin Laboratories, New York.

Tuberculin "B. F." (*Bouillon Filtrate*).—Marketed also in packages containing a stated amount of tuberculin with sufficient diluent to make 1 cubic centimeter as follows: Dilution A containing 0.1 Cc., Dilution B containing 0.01 Cc., Dilution C containing 0.001 Cc., Dilution D containing 0.0001 Cc., Dilution E containing 0.00001 Cc., and Dilution F containing 0.000001 Cc.

Is Your Community Fit?—Is your town adequately sewered or are there still many homes with cesspools and insanitary privies? Are you and your neighbors doing anything to check the breeding of flies and the spread of fly-borne diseases? Does your community enforce any ordinance providing for the screening of food against flies in markets, restaurants and food stores?—*Pub. Health Rep.*, April 25, 1919.

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SATURDAY, JULY 12, 1919

SIR WILLIAM OSLER AT SEVENTY—A RETROSPECT

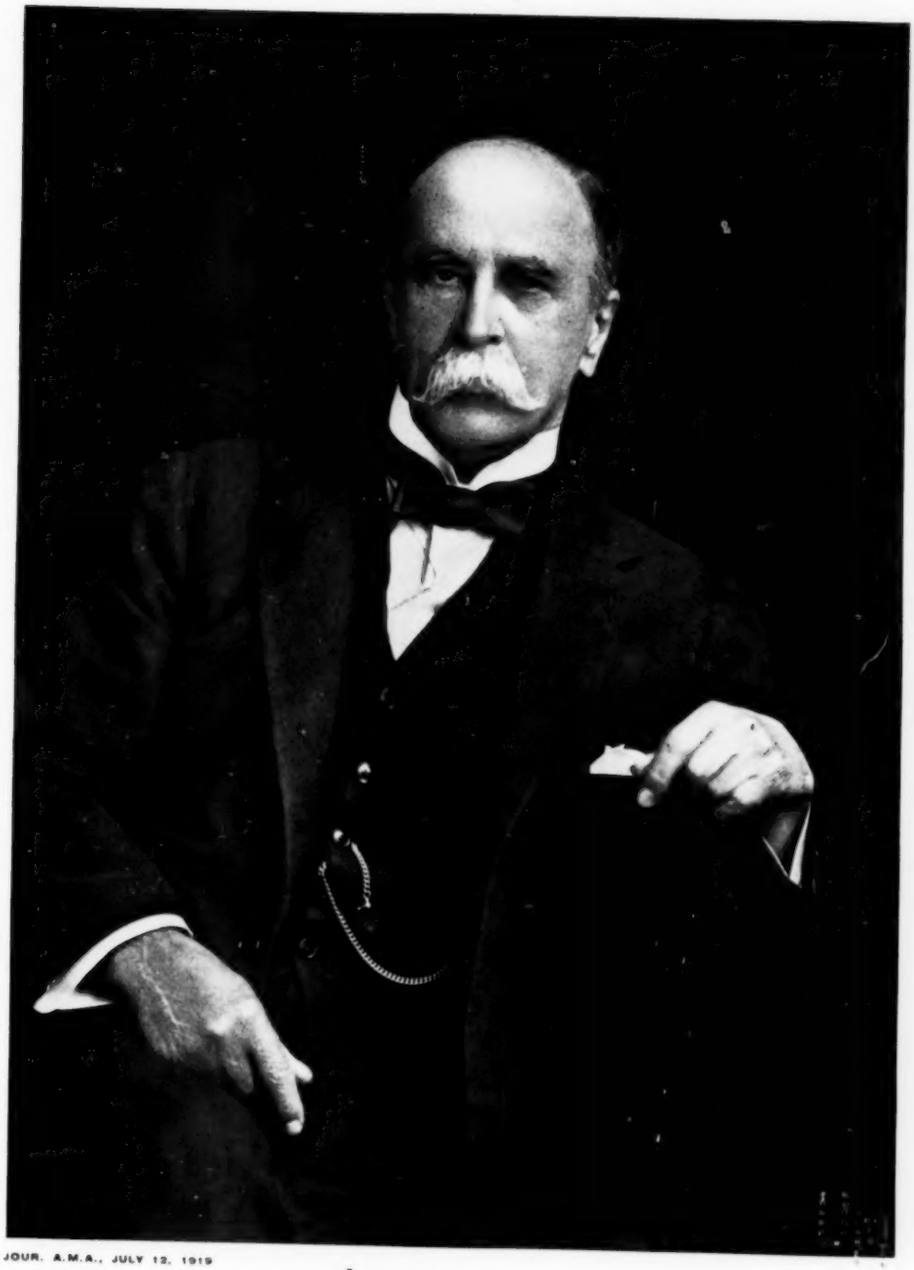
No physician occupies a higher place in the esteem and affection of the English-speaking medical profession than Sir William Osler. For many years his name and his words, written or spoken, have carried an appeal to the mind and heart of physicians as no one else's, and they do so still today. To explain fully this matchless power, this intellectual and moral force, is a far greater task than we would pretend to attempt at this time; but in the interest especially of the rising generations of physicians, the present occasion seems a suitable one on which to point out some of the chief landmarks along the road traveled by the beloved and honored septuagenarian on the way to his high place.

The friends of student days in Toronto and at McGill University in Montreal have recorded that he followed no traditional course, but worked much in the hospital and especially the postmortem room, and that unlike most of his fellow students he troubled himself apparently but little about examinations and mere book knowledge. His graduation thesis on topics in pathologic anatomy was awarded a special prize "because it was greatly distinguished for originality and research." After two years of study abroad, he began to teach pathology in Montreal. He was then 25 years old. Before long he was teaching medicine in the wards also, and he seems quickly to have given himself so completely over to teaching, anatomic and clinical observations, and literary and medical society work as to leave little time for private practice and the cultivation of opportunities to earn money, caring apparently but little about the morrow. Many papers were published these years: those on prodromal rashes in smallpox, on blood platelets, and on infectious endocarditis may be mentioned as examples of the more important. From the first he made a hit as a successful teacher who aroused enthusiasm and stimulated independent work. One more significant fact in regard to the Montreal phase of Osler's career should not be overlooked, namely, the deep and actively helpful interest in the student himself which has characterized his relations to students and young physicians throughout the succeeding years.

It is remarkable how early he attained certain fixed and dominant characteristics that have contributed alike to his usefulness and distinction. Any adequate account of just how various early influences worked together to give such a distinctive and definite bent to Osler's career from its very inception has not been made. It will be an interesting story. Palmer Howard and James Bovell, Canadian physicians of rare quality, are said to have influenced his medical work and outlook more than others. In 1884, Osler went to Philadelphia as professor of clinical medicine in the University of Pennsylvania Department of Medicine. His new colleagues were not a little astonished at first because he steadily turned aside all temptations to private practice in the usual sense but remained strictly teacher and consultant, thus securing the desired leisure for study in hospital, laboratory and library. His demonstrations in the pathologic society drew to him the younger men of the profession especially, an example of sharing the stores of observation all too little followed by leading teachers of clinical medicine and surgery, with an occasional exception like Fenger in Chicago. Many notable articles were published, and while in Philadelphia another side of Osler not yet referred to revealed itself fully, namely, his keen interest in medical history and biography and his gift for letters. In "Who's Who," bibliography is given as his sole recreation.

From this period dates the beginning of a series of addresses and essays of high literary merit: now rich with results of diligent search in medical scriptures, always hopeful and cheery, inspired by lofty ideals and an instinctive spirit of kindliness, they belong, many of them, more to the permanent "literature of power" than to the short-lived "literature of knowledge," and every physician should have them in his library. He has stimulated greatly the interest in our own medical history, and we owe to Osler vivid sketches of the lives and work of early leaders of the profession in this country—Nathan Smith, Bartlett, Jackson, Bigelow, Alonzo Clark, Gerhard and others—with whom it was his ambition to be ranked. "The chief desire of my life has been to become a clinician of the same stamp with these great men, whose names we all revere and who did so much good work for clinical medicine."

As no one before him in this country, Osler illustrated that years of hospital work and observation give better equipment for teaching clinical medicine than practice as ordinarily pursued; hence, when the Johns Hopkins Hospital was opened in 1889, he was the first choice for the head of the department of medicine. And now began the most productive and fruitful period in his professional life. His cherished ambition to build up a great clinic in this coun-



JOUR. A.M.A., JULY 12, 1919

W Osler

try was to be fulfilled. Under the liberal and enlightened policies of the new institution in Baltimore, he rapidly organized a model medical clinic, one of the best, and the first and long the only one of its kind in this country. Here medical students were taken into the wards as units in the working force of the hospital; young physicians were trained through graduated services for higher careers in clinical medicine, and knowledge advanced by systematic study and investigation. Beloved by colleagues, assistants, students, he inspired them, as a colleague has said, with extraordinary stimulus to high endeavors. The result was a great contribution, sorely needed at the time, to medical education and to clinical medicine, which makes one of the brightest pages in our annals.

The work done by Osler and his associates during this period is now woven into the fabric of modern American medicine. It was a wonderfully productive period. His influence as writer and speaker expanded; he preached a vigorous gospel of sanitation, particularly with reference to typhoid fever; he promoted the work of medical societies and libraries, and entered deeply into the life and interests of the profession generally. "With the general practitioner throughout the country my relations have been of a peculiarly intimate character," and few if any have enjoyed in such remarkable degree the warm personal friendship and admiration of physicians everywhere. He was the high priest of lofty ideals, harmony and friendly cooperation. Always the close, kind friend of his students and assistants, many a fumbling beginner has been gladdened unexpectedly by his generous encouragement.

In 1905, Osler accepted the Regius professorship of medicine in Oxford University. While we have not been able to follow his many activities so closely as when he was here, we have had continuous evidence that his work has gone on with undiminished vigor, and that his relations to the profession at large and his interest in its welfare have undergone no other change than in the place of immediate manifestation. Neither wealth nor fame has turned him away from the calm course he laid out for himself while still a very young man. His recent utterances, in a chapter on the treatment of disease, on the exploitation through impudent advertising of pseudoscientific preparations of questionable value by powerful manufacturing pharmacists have the familiar Oslerian ring and hit the bull's eye in the center. In place of a more or less noticeable tendency to therapeutic vagaries he would place "a stern, iconoclastic spirit which leads, not to nihilism, but to an active skepticism born of a knowledge that recognizes its limitations and knows full well that only in this attitude of mind can true progress be made."

And now we must take leave again of our friend and teacher. The American Medical Association sends him its heartiest congratulations on his seventieth birthday, and warm assurances of gratitude and affection. And to our young men, coming on the scene, we would recommend careful heed of these words from Osler's response at the farewell dinner tendered him at New York, May 2, 1904:

> I have had three personal ideals: One to do the day's work well and not to bother about tomorrow. You may say that is not a satisfactory ideal. It is; and there is not one which the student can carry with him into practice with greater effect. To it more than anything else, I owe whatever success I have had—to this power of settling down to the day's work and trying to do it well to the best of my ability, and letting the future take care of itself.
>
> The second ideal has been to act the Golden Rule, as far as in me lay, toward my professional brethren and toward the patients committed to my care.
>
> And the third has been to cultivate such a measure of equanimity as would enable me to bear success with humility, the affection of my friends without pride, and to be ready when the day of sorrow and grief came to meet it with the courage befitting a man.

CABLEGRAM

OXFORD, JULY 8, 1919.

JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION, CHICAGO:

MY BIRTHDAY GREETINGS TO COLLEAGUES AND OLD STUDENTS OF McGILL, PENNSYLVANIA, JOHNS HOPKINS AND TO MY MANY FRIENDS IN THE UNITED STATES AND CANADA.

WM. OSLER.

THE PHYSIOLOGIC COST OF CHEWING

The act of mastication has lately attained new prominence in human physiologic routine from two different circumstances: first, the vigorous advocacy of thorough mastication as the basis to hygienic well-being. It is largely owing to the propagandist energies of the late Mr. Horace Fletcher that the doctrine of deliberate mastication has been widely preached; and "fletcherism" has gained many adherents among that omnipresent group which is searching for the secret of a better existence through improved health. One of the claims made in favor of thorough mastication as advocated by Fletcher is that the extreme comminution of the food and the more effective insalivation promote the digestion and utilization of the nutrients. Despite the plausibility of this argument there is an abundance of experimental evidence to show that the nutrients in the common food products are absorbed in large measure even under ordinary habits of eating. It is exceptional to find less than 90 per cent. of the digestible nutrients utilized; and for the familiar fats and carbohydrates the records approach almost perfection. The residual fecal masses are normally devoid of more than small quantities of digestible nutrients. That which constitutes the output by the bowel comprises indigestible residues, refuse matter from alimentary secretions, and bacterial residues. These are not unutilized nutrients.

Furthermore, comparative investigations of the actual utilization of the nutrients by persons who on one occasion "bolted" and on another occasion "fletcherized" the same diets have given no experimental justification for the assumption of improved absorption as the effect of the more thorough mastication. Obviously it is a physiologic desideratum to comminute moderately at least some of the meats and carbohydrate foods that enter into the customary human dietary. In certain diseased conditions, comminution of the food is an indispensable requisite. However, so far as the faddist features and the extreme claims of unique benefits are concerned, we cannot forego quoting the remark of an extremist in the other direction. "Fletcherism," he writes, "is permissible in those easy-going lackadaisical individuals whose tastes are gently epicurean and who possess the desires of a Lucullus minus the means. Let those benighted harmless souls chew and champ to their heart's content, for they, poor beings, need some fad, and this one can harm no one unless it be themselves. But to busy men who are shouldering the cares of government, commerce and science, and whose strenuous impetuosity moves them to act quickly, whose every act is intense and every movement a flash —to such individuals, fletcherism is a thorn in the flesh."[1]

In the second place mastication has become conspicuous in this country through the widespread use of chewing gum. Some time ago a distinguished chemist[2] remarked in a public address that if the Rockefeller Institute is spending to good advantage about half a million dollars per annum for medical research, the chewing gum bill of the United States would easily support half a dozen Rockefeller Institutes. Coaxed by the insidious suggestions of advertisements and encouraged by the public example of bankers and ministers, physicians and judges, men and women from all classes have joined the ranks of the mastication army. The lasting odor of mint has begun to compete with that of onions and garlic in certain groups of our population. We shall not venture to discuss the alleged virtues of chewing gum. The reports of its help in allaying thirst for the boys in the trenches can scarcely be used in support of the use of chewing gum in the ordinary walks of life. Nor can the alleged presence of pepsin in certain brands be emphasized as a universal panacea. Amid all the uncertainty as to the physiologic effects of chewing gum one fact has been clearly demonstrated. Benedict and Carpenter[3] of the Nutrition Laboratory of the Carnegie Institution of Washington in Boston have found that as a result of chewing gum the basal metabolism may be increased more than 17 per cent.

This has a further bearing on the doctrine of "fletcherizing." If prolonged mastication can necessitate an excess heat production equivalent to nearly one fifth of the basal metabolism, it is easily seen, to quote the Boston physiologists, that any advantage gained from a possible increase in the digestibility of the food is more than compensated by the increase in heat production. The conception, they add, of an increase in the digestibility and in the utilization of the energy of foodstuffs as a result of prolonged mastication thus finds no support in fact.

1. Fitch, W. E.: Dietotherapy, New York **2**: 83, 1918.
2. Bakeland, L. H.: Some Aspects of Industrial Chemistry, Science, Aug. 7, 1914, p. 197.
3. Benedict, F. G., and Carpenter, T. M.: Food Ingestion and Energy Transformations with Special Reference to the Stimulating Effects of Nutrients, Carnegie Institution of Washington, Publication 261, 1918.

NICOTIN IN CIGAR SMOKE

Nicotin, which exhibits a toxicity of high degree, is volatile. Why the tobacco which contains it does not cause greater evidences of pronounced poisoning than are observed in the ordinary smoker has been a mystery. The traditional explanation has been that nicotin is destroyed in the process of smoking, and that the combustion products, real or conjectured, are far less toxic in their character than is the tobacco akaloid itself. There can no longer be any doubt, however, that the nicotin is by no means completely burned up in smoking, for there is valid evidence that more than one third of the volatile poison can be recovered in the smoke.[1]

Various schemes have been employed or recommended to eliminate the nicotin menace of tobacco without making it necessary to give up its use. Among these are the production of so-called nicotin-free cigars. They have never attained any recognition in this country, although serious attempts have been made to introduce them in some of the European countries. One product has represented the result of extracting the tobacco to remove the alkaloid. As other valued aromatic properties of the plant are thereby likewise removed, such detoxicated tobacco has never attained popularity. Another method has consisted in "fixing" the alkaloid by a treatment which forms the insoluble nicotin tannate. Tobacco treated in this way may, on ordinary chemical analysis, show a low content of nicotin; but this does not prove that the nicotin may not be liberated into the vapors in some degree when the tobacco is smoked. Experiment shows, in fact, that it actually is. Another procedure has been to introduce iron chlorid near the butt end of the cigar with the object of making it retain some or all of the volatile nicotin that passes through this portion as the smoke proceeds into the mouth of the smoker. Here, too, critical investigation has revealed the failure to prevent the exit of nicotin, at least in such cigars of this type as have been offered for sale to date.

1. Lehmann, K. B.: Untersuchungen über das Tabakrauchen, München. med. Wchnschr. **55**: 723, 1908. Garner, W. W.: The Relation of Nicotine to the Burning Quality of Tobacco, Bull. 141, U. S. Dept. Agric. Bureau of Plant Industry, 1909.

Storm van Leuwen[2] of Utrecht has prepared another surprise for the unsuspecting smoker. He has made an investigation of the actual nicotin content of cigar smoke collected under conditions comparable to those that prevail in the actual performance of smoking, in which some of the products of combustion are dissipated into the air without absorption and only a part is collected in the mouth. According to the observations made by the Dutch pharmacologist, not only were some of the current "harmless" sophisticated cigars obtainable in Holland quite as rich as were ordinary cigars in their yield of nicotin, but it was also brought out that no correlation between the supposed "strength" of cigars and the toxicity of their vapors could be established. The common distinction between mild and strong cigars was found to be no index of the content of nicotin that passes into the smoke; nor could the color or even the nicotin content of the leaf be depended on to foretell the outcome of the actual smoke test.

If this be correct, it follows that the current designation of tobacco as mild or otherwise probably depends in large measure on factors of flavor or aroma as well as on assumed physiologic effects that it may bring about. What constituents are responsible has not been determined. The feature for emphasis here is the seemingly well substantiated assertion that cigars are not always what they seem—so far as nicotin is concerned.

COMMERCIAL THERAPEUTICS

A report of the Council on Pharmacy and Chemistry that appears elsewhere[3] in this issue deals with another attempt to foist on our profession a series of essentially secret preparations whose therapeutic value has not been scientifically demonstrated. Grotesquely extravagant claims are advanced as to the therapeutic potency and range of action of substances of whose nature and effects we have no trustworthy information. Physicians are advised to use—and many undoubtedly are using—these alleged remedies in the treatment of diseases in which delay in the proper kind of treatment may be of the greatest danger to the patient. As stated, there is available no reliable information regarding the effects of these substances when they are introduced in the human body. They may have no effect whatever, or they may produce more or less direct injury; in either case there is the chance that damage, even irreparable to the patient, may result because rational treatment is withheld.

If we accept the statement that the preparations are largely vegetable proteins, it is a fair inference that, under certain conditions, they may cause a febrile reaction of the same general nature as that caused by other foreign proteins when injected into the body. We know that such reactions are not without danger and that the treatment of certain infections by induced reactions to foreign proteins is strictly an experimental procedure to be undertaken only under very special conditions. There is, therefore, no known valid reason why a physician should assume the responsibility for using these alleged remedies in the treatment of his patients; there is a very obvious reason why he should not—the therapeutic instructions of "the House of Merrell, always interested in the progress of plant therapy" to the contrary notwithstanding. It is the old story of exploiting physicians through commercial pseudoscience; of trading on the credulity of the profession to the detriment of the public. As Osler[4] recently protested so vigorously:

> Some time ago a pamphlet came from X and Company, characterized by brazen therapeutic impudence, and indicating a supreme indifference to anything that could be called intelligence on the part of the recipients. That these firms [manufacturing pharmacists] have the audacity to issue such trash indicates the state of thraldom in which they regard us. And I would protest against the usurpation on the part of these men of our function as teachers. Why, for example, should Y and Company write as if they were directors of large genito-urinary clinics instead of manufacturing pharmacists? It is none of their business what is the best treatment for gonorrhea—by what possibility could they ever know it, and why should their literature pretend to the combined wisdom of Neisser and Guyon? What right have Z and Company to send on a card directions for the treatment of anemia and dyspepsia, about which subjects they know as much as an unborn babe, and, if they stick to their legitimate business, about the same opportunity of getting information? For years the profession has been exploited in this way, until the evil has become unbearable, and we need as active a crusade against the pseudoscience in the profession as has been waged of late against the use of quack medicines by the public. We have been altogether too submissive, and have gradually allowed those who should be our willing helpers to dictate terms and to play the rôle of masters. FAR TOO LARGE A SECTION OF THE TREATMENT OF DISEASE IS TODAY CONTROLLED BY THE BIG MANUFACTURING PHARMACISTS, WHO HAVE ENSLAVED US IN A PLAUSIBLE PSEUDOSCIENCE.

What shall the profession do to protect itself against this humiliation—to throw off the credulity that extols pseudoscience and makes commercialized empiricism financially profitable? Osler says the remedy is obvious: "Give our students a first-hand acquaintance with disease, and give them a thorough practical knowledge of the great drugs, and we will send out independent, clear-headed, cautious practitioners who will do their own thinking and be no longer at the mercy of the meretricious literature, which has sapped our independence." Excellent! But must humanity wait a generation? Why not stop this evil at once? The American Medical Association has provided the means whereby this can be done, if physicians will only make use of it—the Council on Pharmacy and Chemistry.

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2. Storm van Leuwen, W.: Ueber den Nikotingehalt im Rauche schwerer, leicher und "nikotinfreier" Zigarren, Arch. f. exper. Path. u. Pharmakol. **84**: 282, 1918.

3. Page 128.

4. Advance pages, the Oxford Medicine, 1919, Vol. 1, Part 3, p. 245.

THE MEASURE OF METABOLISM

Owing to the efforts of a number of American investigators, many facts regarding metabolism in man have been convincingly demonstrated. The rôle of muscular activity in creating an extra demand for energy as derived from food fuel has long been recognized. Even some of the minor activities in which muscles are engaged transform energy in amounts that are readily measurable by the newer methods. The energy expended by an infant in crying, the work done in rising from the reclining posture, the muscular work involved in chewing gum—these and similar activities can be measured and their cost to the body expressed in terms of converted calories. Less well known is the stimulatory effect of recently ingested food on the metabolism. As Benedict[1] and his collaborators have lately reminded us, in reviewing the present state of knowledge in this field, heat production is greatly increased after eating, and the amount of increase is closely dependent on the nature of the food consumed. For example, the metabolism of a subject may be increased by 25 per cent. after a meal consisting chiefly of carbohydrates, but by as much as 45 per cent. after a heavy protein meal. Furthermore, size, age and sex also play a part in determining the chemical exchanges in the body.

Lately it has become quite customary to place emphasis on bodily dimensions, measured by the extent of body surface, in evaluating the degree of metabolic changes. Harris and Benedict[2] have insisted that the correlations between body weight and metabolism and between body surface and metabolism are of approximately the same magnitude. Body weight and body surface have, therefore, the same value in indicating the basal metabolism of the subject. Realizing that weight, stature and age all have independent significance for predicting the metabolism of a person, Harris and Benedict have succeeded in devising mathematical formulas based on numerous actual observations in calorimetry, whereby the basal metabolism of a person can be estimated with a fair degree of accuracy. Such methods, even though they involve a fund of technical biometric information such as the average physician cannot be assumed to possess, promise to furnish useful criteria for determining the existence of disturbances of metabolism in certain diseases. They thus amplify the admirable contributions to clinical calorimetry that have emanated in recent years from the Russell Sage Institute of Pathology in New York City.[3]

The Carnegie Institution contributions seem to establish clearly that there is a difference in the basal metabolism of men and women. Quoting the results ascertained, they show that the average daily basal heat production of the 136 men investigated is 1,632 calories, whereas that of the 103 women studied is 1,349 calories. Thus the daily heat production of women is about 300 calories less than that of men. But women are smaller than men. If correction for body size is made by expressing heat production in calories per kilogram of body weight, it is 25.7 calories in the men as compared with 24.5 calories, or 1.2 calories per kilogram less, in the women. The men show an average daily heat production per square meter of body surface of 925 calories as compared with 850 calories, or 75 calories less, in the women. This difference is well marked through the period of adult life. The measure of metabolism is the fundamental requisite in establishing the "standards" of food requirement in human nutrition.

1. Benedict, F. G., and Carpenter, T. M.: Food Ingestion and Energy Transformations with Special Reference to the Stimulating Effect of Nutrients, Carnegie Institution of Washington, Publication 261, 1918.

2. Harris, J. A., and Benedict, F. G.: Biometric Standards for Energy Requirements in Human Nutrition, Scientific Monthly **8**: 385, 1919.

3. The researches from this institute have been published from time to time in the Archives of Internal Medicine.

Current Comment

A NEW MEMORIAL TO PASTEUR

Soon after the conclusion of the armistice, a new and apparently very successful dramatic experiment was attempted in Paris. A dramatist well known heretofore as a specialist in "amorous psychology," M. Sacha Guitry, has had presented a play without a female character, a single-minded portrayal of a hero of humanity, Louis Pasteur;[1] in the opinion of critics, at least, it is an entire success. Pasteur is shown in a sort of aureole of hero worship as patriot, as scientist, and as passionate well wisher of mankind in general and in particular. He brooks no opposition to what he knows to be right, he fights bitterly against the conservatism which would nullify his progress, and when successively he receives all the honors which France and other countries can bestow, he is grateful and modest. The third act offers the exciting occasion of the first antirabic inoculation of the little boy, Joseph Meister, and the event is utilized with considerable effect to emphasize the sympathetic warmth of Pasteur's nature as the fitting complement of scientific ability. Pasteur's speech is full of the expression of his ideals, taken in part from actual public addresses. "Do not search for those who will give you advice; look rather for those who will set you an example." "Labor and persevere"—it is the keynote of his life, of a life in which the only element of importance is his work, which, however, is always actuated by the high purpose of improving the lot of man. The final words of the play, written in the year 1918, are the words of Pasteur himself: "And I believe absolutely that knowledge and peace will triumph over ignorance and war, and that men will work together, not to destroy, but to build." The piece is interesting, not only as an effort to present a great man of science to popular applause, but also

1. Guitry, Sacha: Pasteur, pièce en cinq actes, La Petite Illustration, n. s. No. 1 (Paris, March 1, 1919).

because it has apparently met the approval of critics and theater goers. The dramatic aspects of Pasteur's life are of necessity pushed to the fore, but it does not seem that his character is distorted.

VITAMINS AND TRENCH FOOT

Vitamins are being referred to frequently at present in the discussion of some obscure diseases which puzzle the clinician. French observers[1] correctly point out that among the symptoms attributable to a deficiency of certain vitamins in the diet are those of scurvy and neuritis. They assert that, especially in the earlier period of the war, soldiers deprived of fresh foods rich in vitamins not infrequently exhibited symptoms that might be designated as "prescorbutic," as well as neuritic manifestations approximating some of the features of clinical beriberi. When, owing to prolonged dietary deficiencies, a latent sort of scorbutic or neuritic tendency developed, the conditions were offered for superimposing added factors which manifested themselves in such peripheral difficulties as trench foot. In other words, the primary defect was a polyneuritic and cutaneous disturbance consequent on improper nutrition. The more specific features and local injuries then developed because they found in the ill nourished tissues a suitable location. Bruntz and Spillmann attribute the decrease in trench foot and related maladies in the succeeding seasons to improved rationing as the fundamental prophylactic factor. It is an interesting speculation to place nutrition in the forefront of the causes bringing about the improved condition of the soldiers as the war progressed. However, no one can overlook the improvements in other aspects of military hygiene which also contributed to making trench life less unendurable and damaging as the lessons of experience were gradually brought to bear on the situation.

WILLIAM OSLER'S BIRTHDAY

By happy coincidence, the date of issue of this number of THE JOURNAL is the day on which the medical professions of Great Britain and the United States combine to honor Sir William Osler on his seventieth birthday. The occasion is fraught with good omens, for no other physician has done more to bring peace and concord among his fellows "where'er his stages may have been," and no living man has done more to unify the medical professions of the United States and the mother country. An impressive record of his achievement is afforded in the nineteen contributions which make up the July number of the *Bulletin* of the Johns Hopkins Hospital, each of them written by a colleague or pupil whose knowledge of Osler is intimate enough to be authoritative. Not least of these is the exhaustive and accurate bibliography of Osler's 730 contributions to the literature of medicine (1870-1919) by the librarian of the Johns Hopkins Hospital. It is significant that the two papers so far published in 1919 are both of them contributions to clinical medicine. Through his own contributions and his personal influence, Osler has given a greater stimulation to the study and investigation of medical history in this country than any other living man. Those who have seen his unrivaled collection of original texts and documents relating to epoch-making discoveries and advances in medicine predict that its catalogue, informed as it will be with Osler's big humanism, will take its place as one of the great monuments of medical bibliography. The story of Osler's life is a simple record: Canadian born (1849), the son of an Ontario clergyman, and M.D. of McGill University (1872), a graduate student in London clinics and German laboratories (1872-1874), lecturer and professor of the Institutes of Medicine at Montreal (1874-1884), and successively professor of medicine at the University of Pennsylvania (1884-1889) and the Johns Hopkins University (1889-1894), Regius Professor of Medicine at Oxford since 1904. The highest honors in the Anglo-Saxon profession have been his.

1. Bruntz, L., and Spillmann, L.: Le "mal des tranchées" (gelure des pieds) doit être une avitaminose, Compt. rend. Soc. de Biol. **82**: 8, 1919.

SPORTING POSTMORTEM

Thus, Jess Willard via "patent medicine" advertisements in 1916:

> "I have often taken Nuxated Iron and I have particularly advocated the free use of iron by all those who wish to obtain great physical and mental power. Without it I am sure that I should never have been able to whip Jack Johnson so completely and easily as I did, and while training for my fight with Frank Moran, I regularly took Nuxated Iron, and I am certain that it was a most important factor in my winning the fight so easily."

Has Nuxated Iron lost its strength, or did Jess lose interest in that product as soon as his testimonial became ancient history? The exploiters of the nostrum have asserted that it makes "Iron Men"; but then, recent events have shown that three rounds with a towel-waving finale is also a great "iron men" producer. 'Tis an ill wind that blows no one good. The Toledo episode has deprived the gentlemen who sell Nuxated Iron of the pulling power of one of their testimonials, but they still have others. For instance, the Hon. William E. Mason, congressman at large from Illinois, has extolled the nostrum for overcoming that "horrible tired feeling one cannot describe." There must be a lot of fight fans who need something in that line.

State Tuberculosis Work.—In Idaho a bill providing for two district sanatoriums, the only bed provision for tuberculosis in the state, has been enacted into law. In South Dakota provision has been made for county nursing and county hospital care for the tuberculosis patient. Oklahoma has enacted a law providing for two sanatoriums for white patients and one for negroes and a bureau of tuberculosis in the state department of health together with adequate provision for the care of these patients in counties. Every one of these laws is the result of organization, in New Mexico by the New Mexico Public Health Association, in Idaho by the Idaho Association for the Study and Prevention of Tuberculosis, in South Dakota by the Red Cross Seal Commission of South Dakota, in Oklahoma by the Oklahoma Tuberculosis Association.—*Journal of Outdoor Life.*

Medical Mobilization and the War

Personnel of the Medical Department

For the week ending July 3, there were 12,731 officers in the Medical Corps, a decrease of 413 from the previous week. The Medical Reserve Corps contained 2,808 officers. The total number of physicians discharged since the beginning of the war is 20,192.

Army Medical Department Appropriations

The Army Appropriation Bill as finally passed by Congress carries an appropriation of $4,500,000 for the purchase of general supplies of the Medical Department of the Army. Other items carried are: for hospital care, Canal Zone Garrisons, $50,000; for the Surgeon-General's Library, $20,000; for the preservation of specimens for the Army Medical School, Washington, $10,000. An appropriation of $350,000 for the purchase of twenty-six acres of land adjoining Walter Reed Hospital, Washington, for the final location of the Army Medical School, Surgeon-General's Library and the Army Museum, and for the improvements now on the land to be purchased, was also finally adopted. This appropriation was very greatly desired by the authorities of the Medical Department.

Award of Croix de Guerre

HERBERT D. PORTERFIELD, Major, M. C., U. S. Army, Red Oak, Iowa, assistant to the chief surgeon of the Third Army Corps, has been awarded the croix de guerre.

"A medical officer who displayed remarkable devotion to duty since the F Division joined the front. Participated in battles of Cantigny, Soissons, St. Mihiel, Argonne, Sedan. Volunteered in May 26, 1919, to be attached to a front line first aid station and showed conspicuous gallantry in rendering first aid under heavy shell fire. For the operations July 18 to 22, he distinguished himself in crossing many areas swept by violent machine gun and shell fire, in order to supply the first aid stations of the front line. During the operations, October-November, 1918, he volunteered and frequently visited the front line first aid station and inspired the medical personnel by his coolness and utter disregard for danger."

Awards of Croix de Guerre, with Palm

The following is a list of officers who, while in the military or naval service of the United States, have been awarded the French croix de guerre, with palm:

MARVIN CAPPEL, Captain, Medical Corps, Ninth Infantry, Second Division, Alexandria, La.

FREDERICK W. BLACK, Major, Medical Corps, Twenty-Eighth Infantry, First Division, Punxsutawney, Pa.

WILLIAM EARLE BOYCE, Captain, Medical Corps, Medical Detachment, Thirtieth Infantry, Third Division, Flat Woods, Tenn.

ERVIN T. DRAKE, First Lieutenant, Section 646, United States Army Ambulance Service, Franklin, N. H.

MARCEL E. DUCASSE, First Lieutenant, Section 546, United States Army Ambulance Service.

SAMUEL C. GURNEY, Lieutenant-Colonel, Medical Corps, Third Division, Detroit, Mich.

CHARLES W. COMFORT, Major, M. C., U. S. Army, New Haven, Conn., surgeon of the One Hundred and Second Infantry, for being continually present on the front line, administering first aid to the wounded under violent artillery and machine gun fire.

JAMES C. ELLIS, Captain, Ambulance Company No. 27, 3d Division.

WILLIAM J. LOSH, First Lieutenant, Section No. 583, United States Army Ambulance Service.

WILLIAM YORKE STEVENSON, First Lieutenant, Section No. 625, United States Army Ambulance Service.

Awards of French Croix de Guerre, with Bronze Star

The following is a list of persons, who, while in the military or naval service of the United States, have been awarded the French croix de guerre, with bronze star, and are authorized to wear on their Army uniforms, according to Army regulations, that decoration or a ribbon indicative thereof:

CHARLES J. COLE, Jr., Captain, Medical Corps, Field Hospital No. 23.

PHILIP CONLON, 1st Lieut. Medical Corps, 3d Battalion, 9th Inf., 2d Division.

DUDLEY T. DAWSON, Captain, Medical Corps, 146th Inf., 37th Division.

CLARENCE C. DEL MARCELLE, 1st Lieut., Medical Corps, 1st Field Hospital, 2d Division.

FRED B. EVANS, Captain, Medical Corps, 1st Field Hospital, 2d Division.

HARLOW G. FARMER, Major, Medical Corps, Field Hospital No. 15, 2d Division.

ELLIOTT LEE, 1st Lieut., Section 632 United States Army Ambulance Service.

WILLIAM F. McFEE, 1st Lieut., Medical Corps, 9th Inf., 2d Division.

WILLIAM C. MEACHAM, Captain, Medical Corps, Ambulance Company No. 1, 2d Division.

EDWARD MOORE, 1st Lieut., Section 512, United States Army Ambulance Service.

HENRY M. MOORE, Captain Medical Corps, Field Hospital No. 23, 15, 2d Division.

LUKE B. PECK, Major, Medical Corps, 7th Inf., 3d Division.

ARTHUR H. RUGGLES, Major, Medical Corps, Field Hospital No. 1, 2d Division.

Awards of Croix de Guerre, with Gilt Star

The following is a list of officers who, while in the military or naval service of the United States, have been awarded the French croix de guerre, with gilt star.

RICHARD DERBY, Lieutenant Colonel, Medical Corps, Second Division, New York.

JAMES H. ERLENBACH, Captain, Medical Department, One Hundred and Third Infantry, Twenty-Sixth Division, Boston.

OLIVER R. AUSTIN, Major, Medical Department, Twelfth Field Artillery, Second Division, Aberdeen, Wash.

STANLEY F. BERRY, Major, Three Hundred and Sixteenth Sanitary Train, Ninety-First Division, Oakland, Calif.

LOUIS H. COCKERHAM, First Lieutenant, Ambulance Company No. 15, Medical Corps, Second Division, Palestine, Texas.

LEO J. CRUM, First Lieutenant, Sanitary Detachment, One Hundred and Twenty-Sixth Infantry, Thirty-Second Division, Kalamazoo, Mich.

DWIGHT DICKINSEN, Jr., Assistant Surgeon, Fifth Regiment, United States Marine Corps, Second Division, Washington, D. C.

CHARLES MAXWELL, M. C., Major, Medical Corps, Twelfth Field Artillery, Second Division.

TRAVIS S. MORING, Assistant Surgeon, Sixth Machine Gun Battalion, Second Division, M. C., U. S. N.

REUEL A. PIERCE, First Lieutenant, Medical Detachment, One Hundred and Third Infantry, Twenty-Sixth Division, Taunton, Mass.

CARROLL P. PRICE, First Lieutenant, Medical Department, Seventeenth Field Artillery, Second Division, Harrodsburg, Ky.

ABRAHAM J. F. THOMAS, First Lieutenant, Medical Corps, Ambulance Company No. 1, Newburyaport, Mass.

OLIVER E. VAN ALYEA, First Lieutenant, Medical Corps, Ambulance Company 16, Chicago.

HENRY P. GLENDENNING, Second Lieutenant, Medical Corps, Company F, 5th Regiment, United States Marine Corps, 2d Division.

DAVE W. MacCLAIN (deceased), Second Lieutenant, Medical Service, 5th Regiment, United States Marine Corps.

JOHN D. SOUTHWORTH, First Lieutenant, Medical Corps, Ambulance Company No. 15.

Awards of Croix de Guerre, with Silver Star

The following is a list of officers who, while in the military or naval service of the United States, have been awarded the French croix de guerre, with silver star, and who, under the provisions of the act of Congress approved July 9, 1918 (Bulletin No. 43, W. D., 1918), are authorized to wear on their Army uniform, according to uniform regulations, that decoration or a ribbon indicative thereof:

CHARLES ST. JOHN BUTLER, First Lieutenant, Section 638, United States Army Ambulance Service, M. C., U. S. Navy.

JOHN E. KUYKENDALL (deceased), Captain, Three Hundred and Sixteenth Train, Ninety-First Division, Eugene, Ore.

FLOYD D. LEWIS, Captain, Three Hundred and Sixteenth Sanitary Train, Ninety-First Division, Silverton, Ore.

CARL W. SHAFFER, Captain, Medical Corps, Fifteenth Field Artillery, Second Division, Woodstock, Va.

JOHN G. STROHM, Major, Division Surgeon, Ninety-First Division, Portland, Ore.

THOMAS JOHNSON SUMMEY, First Lieutenant, Medical Corps, Ambulance Company 23, Second Division, Brevard, N. C.

Award, Posthumous, of Distinguished Service Cross

By direction of the President, the distinguished service cross was awarded posthumously by the commanding general, American Expeditionary Forces, for extraordinary heroism in action in Europe, to the following named officers of the American Expeditionary Forces:

HERBERT D. RYMAN, Captain, Medical Corps, 107th Field Artillery. For extraordinary heroism in action near St. Gilles, France, August 17, 1918. While administering first aid to a wounded soldier he was himself mortally wounded. Refusing aid, he assisted in rendering first aid and directing the treatment of three other soldiers. Though weakened by loss of blood, he showed utter disregard for his personal danger, refusing to accept treatment until the other wounded

had been cared for. Next of kin, Mrs. Cora Belle Ryman, wife, Mount Pulaski, Ill.

HARRISON B. WEBSTER, Major, Medical Corps, 47th Infantry. For extraordinary heroism in action near Bois de Brieulles, France, September 26 to October 12, 1918. After seeing that his personnel was functioning properly, he went fearlessly to positions in the front lines. When stretcher bearers were unable to handle the large number of casualties, he personally took a light German wagon to the front lines and gathered the wounded. His personal bravery was an inspiration to his men throughout his service. He was killed by shell fire on Oct. 12, 1918. Home address, Mrs. Harrison B. Webster (wife), 145 South Street, Northampton, Mass.

Awards of Distinguished Service Medal

By direction of the President, the distinguished service medal has been awarded by the commanding general, American Expeditionary Forces, to the following-named officers of the United States Army for exceptionally meritorious and distinguished services, as set forth after their names:

Col. DEANE C. HOWARD, United States Army. For exceptionally meritorious and conspicuous service. In organizing and administering the Division of Sanitation and the Sanitary Inspection Service of the Office of the Surgeon-General of the Army he contributed greatly to the efficiency of the military service.

Col. CARL R. DARNALL, United States Army. For exceptionally meritorious and conspicuous service. He has rendered especially meritorious and distinguished service in organizing and developing and administering the Supply Division of the Medical Department, and it is due to his foresight and ability that new sources of medical supplies were developed in this country so that adequate quantities of material were always available for use with the sick and wounded of the Army.

Col. FREDERICK F. RUSSELL, United States Army. For exceptionally meritorious and conspicuous service. He organized and directed the Division of Laboratories and Infectious Diseases of the Surgeon-General's Office during the present war and thereby contributed in great measure to the efficiency of the military forces.

Col. EDWIN P. WOLFE, United States Army. For exceptionally meritorious and conspicuous service. He systematized and controlled the distribution of medical supplies with so much foresight and good judgment that his service was able to meet promptly all the emergencies in the United States as they occurred.

Col. REUBEN B. MILLER, United States Army. For exceptionally meritorious and conspicuous service in the reorganization and administration of the personnel branch of the Office of the Surgeon-General of the Army during the present war. He thereby contributed greatly to the proper care of the sick and wounded and thus increased the efficiency of the Army.

Col. VICTOR C. VAUGHAN, United States Army. For exceptionally meritorious and conspicuous service. During his service in the office of the Surgeon-General his contributions of advice and information have been of great value to the Army in connection with the control of communicable diseases. During the recent epidemic of influenza, in particular, his work was of extreme value.

Col. WILLIAM H. WELCH, United States Army. For exceptionally meritorious and conspicuous service. From his rich experience in scientific medicine, sanitation, public health and medical education he helped materially in guiding the medical profession both in and out of the Army safely through many difficulties of war.

Lieut.-Col. GLEN I. JONES, Medical Corps, United States Army. For exceptionally meritorious and conspicuous service. While surgeon of the 10th Division during the epidemic of Spanish influenza in that command his farsightedness in providing hospital facilities and his energetic and exceptionally efficient action in directing the care of patients resulted in a large reduction of mortality. His services show a rare devotion to duty in that though himself a sufferer from the diseases, his efforts were unabated.

Col. JAY W. GRISSINGER, Medical Corps, United States Army. For exceptionally meritorious and distinguished services. As division surgeon of the 42d Division, and later as chief surgeon of the 1st Army Corps during its operations on the Marne and in the St. Mihiel and Meuse-Argonne offensives, he displayed qualities of leadership, high professional attainments, and rare judgment in energetically directing the work of the sanitary units under his control in providing front line hospitalization and evacuation facilities for our sick and wounded in the field.

Lieut.-Col. RICHARD P. STRONG, Medical Corps, United States Army. For exceptionally meritorious and distinguished services. Possessed of the highest professional qualifications and actuated by zealous devotion to duty, he has rendered services of inestimable value to the American Expeditionary Forces, notably as president of a board appointed to investigate the cause of trench fever, a disease which has caused serious losses to the effectives of the allied armies. The scientific research of this board under his skilful direction led to the discovery of the means by which trench fever is transmitted and in the establishment of effective measures for its prevention.

Major-Gen. ROBERT E. NOBLE, Medical Corps. For exceptionally meritorious and conspicuous services. He had immediate charge of the Personnel Division of the Surgeon-General's Office and solved the problem of getting medical officers into the Army during an increase from 1,500 at the beginning of the war to 30,000. He also had charge of the Hospital Division of the Surgeon-General's Office, handling both of these large responsibilities with conspicuous success.

HONORABLE DISCHARGES, MEDICAL CORPS, U. S. ARMY

NOTE.—In the following list, L. signifies lieutenant; C., captain; M., major; L. C., lieutenant-colonel; Col., colonel, and B. G., brigadier-general.

ALABAMA

Birmingham—Cochran, J. P. (L.)
Brantley—Gilchrist, J. G. (C.)
Fairfield—Ferguson, B. (L. C.)
Gastonburg—Vandevoort, H., Jr. (M.)
Jackson—Armistead, J. R. (M.)
Montgomery—Durden, J. D. (L.)
Salitpa—McVoy, L. (C.)
Samson—Meriwether, F. V. (C.)
Tuskegee—Howard, R. H. (L.)
Uniontown — McCorkle, F. W. (C.)
Vernon—Young, P. T. (C.)

ARKANSAS

Benton—Crawford, S. R. (C.)
Clearwater—Robinson, A. E. (C.)
Dierks—Cashin, J. E. (C.)
Jonesboro—Cothern, T. (C.)
Paragould — Castleberry, F. L. (C.)

CALIFORNIA

Alameda—Beerman, W. F. (M.)
Burlingame — Anderton, H. S. (C.)
Fresno—McConnell, A. B. (C.)
Jackson—Endicott, E. E. (C.)
La Manda Park—Harrah, O. M. (L.)
Livermore—Cary, R. J. (L.)
Los Angeles—Barnet, F. J. (L.)
Barnhart, W. (C.)
Collins, F. K. (C.)
Evans, J. G. (M.)
Lynch, J. G. (M.)
Van Kaathoven, J. J. (L. C.)
West, S. V. (C.)
Los Gatos—Hubbell, G. M. (L.)
Merced—Fountain, E. R. (C.)
Oakland—Curdts, C. E. (C.)
Ontario—Warmer, C. A. (C.)
Red Bluff—Doane, F. L. (C.)
San Diego—Decker, C. W. (Col.)
San Francisco — Alden, B. F. (L. C.)
Bailly, T. E. (M.)
Cook, O. S. (C.)
Herzog, G. K. (M.)
Onesti, S. J. (C.)
Santa Ana—Wehrly, J. (M.)
Trona—Evans, H. R. (L.)
Vacaville—Palmer, H. P. (C.)

COLORADO

Boulder—Harlow, W. P. (L. C.)
Delta—Cleland, W. S. (M.)
Denver—Bergtold, W. H. (M.)
Cattermole, G. H. (C.)
Farnsworth, H. E. (L.)
Hudston, R. (C.)
Packard, R. G. (M.)
Paonia—Erich, A. F. (C.)
Pueblo—Woodbridge, J. H. (C.)
Trinidad—Peirce, F. J. (L. C.)

CONNECTICUT

Lakeville—Peterson, C. K. (C.)
Willimantic—Smith, F. M. (L.)

DELAWARE

Wilmington—Barsky, J. M. (C.)

DISTRICT OF COLUMBIA

Washington—Villamil, J. R. (L.)

FLORIDA

Ocala—Crigler, W. P. (L.)
Punta Gorda—Smith, J. A., Jr. (C.)
St. Petersburg—Murphy, R. D. (L.)
Tallahassee—Gwynn, H. W. (C.)

GEORGIA

Albany—Barnett, J. M. (C.)
Atlanta—Dowman, C. E. (M.)
Columbus — Pennington, M. F. (L.)
Millen—Perkins, M. E. (C.)
Odum—Ritch, T. G. (L.)
Quitman—Wilkinson, W. L. (C.)
Savannah—Shaw, L. W. (L.)
Villa Rica—Malone, W. H. (L.)
Washington—Kelly, G. W. (L.)

IDAHO

Boise—Callard, C. B. (C.)

ILLINOIS

Bunker Hill — Bley, R. E., Jr. (C.)
Carbondale—Barrow, J. W. (M.)
Etherton, M. (L.)
Champaign—Wise, E. D. (C.)
Chicago—Alloway, F. L. (C.)
Bourque, W. E. (C.)
Brosnan, J. T. (L.)
Cameron, A. L. (L.)
Czaja, L. M. (C.)
Echerer, T. J. (L.)
Fraser, J. H. (L.)
Frisch, I. J. (C.)
Kaczkowski, J. C. (C.)
Koch, H. C. (C.)
Kozakiewics, L. P. (L.)
Long, L. L. (C.)
Mix, B. J. (L.)
Roach, R. A. (C.)
Ryan, W. S. (C.)
Sandberg, C. F. (C.)
Sciaretta, S. A. (L.)
Stevenson, J. (L.)
Supple, A. B. (L.)
Trockey, S. N. (C.)
Wheelock, W. O. (M.)
Wierson, T. M. (M.)
Wiese, M. A. (C.)
Danville—Duffy, M. M. (C.)
Decatur—Hayes, J. M. (C.)
West, C. E. (C.)
East St. Louis—Stanton, H. G. (C.)
Humboldt—Deane, F. H. (L.)
Moline—West, A. D. (M.)
Morrison—Downs, J. M. (L.)
Nokomis—Bullington, G. C. (C.)
Oak Park—Frybarger, C. E. (L.)
Quincy—Koch, J. A. (C.)
Ridgefarm—Hubbard, S. M. (C.)
Robinson—Brooks, A. G. (C.)
Strasburg—Knowles, H. P. (L.)

INDIANA

Auburn—Hines, D. M. (C.)
Bloomington — Holland, G. F. (M.)
Gary—Watts, A. A. (C.)
Greenfield—Gibbs, C. M. (C.)
Indianapolis — Dunning, L. M. (C.)
Langdon, H. K. (C.)
Wayman, C. L. (M.)
Newcastle—Marsh, C. A. (L.)
Paoli—Teaford, S. F. (L.)
Richmond—Whallon, A. J. (C.)
Rockville—Connelly, J. J. (C.)
Shelbyville—Sammons, L. C. (L.)
Summitville—Moore, W. C. (L.)

IOWA

Charter Oak — Thomson, T. F. (C.)
Clarion—Brown, G. B. (L.)
Corning—Hoyt, J. E. (C.)
Des Moines — Conkling, W. S. (L. C.)
Dows—Kellogg, O. A. (L.)
Fort Atkinson — Bevins, N. S. (L.)
Fort Dodge—Martin, L. M. (C.)
Harlan—Cobb, E. C. (C.)
Iowa City—Rock, J. J. (C.)
Willis, T. A. (L.)
Lohrville—Earwood, E. R. (M.)
Mason City—Weston, B. R. (C.)
Sioux City—Flageolle, J. W. B. (L.)
Volga City—Cahill, J. A. (L.)
Wallingford—Golden, T. V. (M.)

KANSAS

Assaria—Graf, J. E. (L.)
Cherryvale—Norman, W. G. (L.)
Garnett—Cullum, A. B. (C.)
Great Bend—Zugg, C. W. (C.)
Kansas City—Mabie, L. D. (C.)
Olathe—Jones, C. W. (M.)
Topeka—Hobert, W. K. (L.)

KENTUCKY

Ashland—Sturgell, G. M. (L.)
Augusta—Rice, C. R. (C.)
Campbellsville—Richeson, H. H. (L.)
Covington—Noble, W. A. (L.)
Cynthiana—Wyles, J. P. (L.)
Dwarf—Richie, S. M. (C.)
Fulton—Alexander, H. T. (C.)
Glasgow—Smock, S. J. (L.)
Kirkmansville—Woodson, H. H. (L.)
Louisville—Kerr, L. H. (C.)
Newport—Shannon, W. L. (L.)
Scottsville—Callis, W. A. (L.)

LOUISIANA

New Orleans — Lanford, J. A. (M.)
Lines, E. A. (C.)

MAINE

Foxcroft—Flint, E. T. (M.)
Islesboro—Phelan, G. W. (M.)
Lincoln—Gordon, I. L. (C.)
Portland—Everett, H. J. (C.)

MARYLAND

Baltimore—Finney, J. M. (B. G.)
Hohman, L. B. (L.)
Johnson, R. W. (C.)
Mauck, H. P. (C.)
Sprunt, T. P. (M.)
Stansbury, J. C. (L.)
Sweeney, H. W. (C.)
Tillet, W. S. (C.)
VonGlahn, W. C. (L.)
Walton, H. J. (C.)
Pocomoke City — Parker, A. A. (L.)
Rising Sun—Dodson, R. C. (L.)
Towson—Sargent, G. F. (M.)
Westminster — Sullivan, E. M. (L.)

MASSACHUSETTS

Boston—Curran, S. F. (C.)
Fogg, N. A. (L.)
Jackson, A. M. (C.)
Lanman, T. H. (L.)
Marble, H. C. (M.)
Morrison, W. R. (C.)
Neal, K. P. (L.)
Osgood, H. (C.)
Perry, A. P. (C.)
Sewall, C. W. (L.)
Brockton—Buckley, G. A. (L.)
Brookline—Homans, J. (M.)
Dedham—Johnson, A. E., Jr. (C.)
Fitchburg—Jones, R. C. (L.)
Holyoke—Henerson, G. D. (M.)
Lowell—Kearney, J. P. (L.)
Mahoney, M. P. (L.)
Lynn—Dolloff, E. M. (C.)
New Bedford—O'Connor, P. H. (C.)
Newton—Kirkwood, A. S. (M.)
Springfield—Radding, M. B. (L.)
Westboro—Overholser, W. (L.)
Westminster—Mossman, G. (C.)

MICHIGAN

Alpena—Williams, C. M. (M.)
Augusta—Hughes, R. W. (L.)
Byron—Fox, R. R. (C.)
Detroit—Jessup, N. J. (L.)
Kimzey, J. A. (C.)
Mayne, F. C. (C.)
Grass Lake—Lake, W. H. (L.)
Hillman—Schmaler, A. J. (C.)
Hillsdale—Miller, H. C. (M.)
Kalamazoo—Clark, O. H. (C.)
Laurium—Kerr, M. M. (M.)
Redford—Tupper, L. N. (C.)
Romeo—Sharpe, W. R. T. (M.)
St. Joseph—Merritt, C. W. (C.)

MINNESOTA

Duluth—Collins, A. N. (C.)
Faribault—Traeger, C. A. (L.)
Glenwood—Elsey, J. R. (C.)
Hibbing—Brooks, G. F. (C.)
Minneapolis—Johnson, N. T. (C.)
St. Paul—Hilger, A. W. (C.)
Waseca—Passer, W. F. (C.)
West Duluth—Forbes, R. S. (L.)
Winona—Rosenberry, B. P. (M.)
Schaffer, S. (M.)

MISSISSIPPI

Aberdeen—Paine, R. (L.)
Crystal Springs — Gibson, J. S. (L.)
Isola—Byrd, W. G. (C.)
Jackson—Graves, W. R. (L.)
Wesson—McKee, C. R. (L.)

MISSOURI

Billings—Brown, F. H. (C.)
Blodgett—Ogilvie, F. L. (C.)
Columbia—Bradford, O. F. (L.)
Kansas City—Cantrell, C. D. (C.)
Leonard, W. H. (C.)
McKee, J. W. (L.)
McPherson, O. P. (M.)
Morris, R. H. (C.)
Sanford, J. R. (L.)
Liberty—Maltby, B. (C.)
Macon—Nickell, L. O. (C.)
North Kansas City—Lienhardt, H. O. (L.)
Potosi—Blount, H. J. (L.)
Ravanna—Callaway, F. C. (L.)
Sedalia—Harvard, H. D. (L.)
McGinnis, C. S. (M.)
Shelbina—Vaughn, F. (L.)
Springfield—Knabb, A. D. (L.)
St. Joseph—Timerman, A. R. (C.)
St. Louis—Brookes, T. P. (C.)
Coffin, E. L. (C.)
Dorsett, E. L. (C.)
Flader, O. F. (L.)
Frank, A. M. (C.)
Langsdorf, H. S. (L.)
Leavy, C. A. (C.)
Mellies, W. J. (L.)
Webster Grove—Armstrong, C. L. (C.)

MONTANA

Deer Lodge—Rinder, C. O. (C.)
Forsythe—Cotton, W. (L.)

NEBRASKA

Auburn—Dillon, I. H. (M.)
Creighton—Johnson, C. C. (L. C.)
Lincoln—Crumrine, L. B. (C.)
Olson, O. (M.)
Thomson, J. E. (L.)
Williams, J. P. (C.)
Omaha—Antony, J. T. (L.)
Egen, L. F. (C.)
Scotts Bluff—Rasmusser, N. (M.)

NEW HAMPSHIRE

Manchester—Badger, M. P. (C.)
Dwinell, G. F. (C.)
Whitefield—Warden, J. B. (C.)

NEW JERSEY

Atlantic City—Clark, S. W. (C.)
Camden—McKinstry, H. S. (L.)
Hanasquan—Hood, P. G. (C.)
Hoboken—Alexander, H. (C.)
Granelli, H. A. (C.)
Newark—Mandeville, F. N. (M.)
Russell, L. C. (C.)
Soule, R. E. (M.)
Vanderhoff, I. M. (M.)

NEW MEXICO

Roswell—Haymaker, O. R. (C.)

NEW YORK

Albany—Van Loon, H. F. (L.)
Auburn—McCully, R. R. (M.)
Brooklyn—Clark, R. (M.)
Clark, S. G. (L.)
Ennis, W. M. (C.)
Fowler, R. H. (M.)
Golding, J. E. (C.)
Lubrecht, C. A. (C.)
Pearse, R. S. (C.)
Seidensticker, R. F. (C.)
Weinberger, M. (L.)
Buffalo—Driscoll, W. S. (C.)
Murphy, J. A. (L.)
Potts, F. N. (L.)
Simon, C. (L.)
Glen Cove—Bernstein, F. (L.)
Goshen—Seward, F. W., Jr. (L.)
Lincklaen—Keppel, F. D. (L.)
New York—Cabaniss, J. T. (L.)
Cornwall, H. C. (L. C.)
Dooling, A. F. A. (L.)
Eckert, M. M. (C.)
Engel, W. (C.)
Gootesman, J. (L.)
Gwathmey, J. T. (C.)
Hallock, D. H. (C.)
Highman, W. J. (C.)
James, H. M. (L. C.)
Moore, A. A. (C.)
Morris, M. L. (M.)
Noll, J. E. (L.)
Pyle, E. (L.)
Redway, L. D. (C.)
Salomon, A. V. (L.)
Snyder, R. G. (C.)
Sonneschein, H. D. (C.)
Vincent, L. M. (L.)
Wurtzel, G. L. (L.)
Nunda—Diefenbach, W. E. (C.)
Oswego—Tripler, S. (L.)
Potsdam—Brown, S. P. (M.)
Rochester—Lewis, E. R. (C.)
Syracuse—Sharkey, M. B. (L.)
Troy—McKeon, W. B. (C.)
Utica—Chase, F. T. (L.)
White Plains — Bowman, K. M. (C.)
Strong, R. L. (L.)

NORTH CAROLINA

Charlotte—Brown, V. (L.)
Hamlet—Moncure, W., Jr. (L.)
Monroe—Payne, R. L. (C.)

NORTH DAKOTA

Carrington — MacKenzie, J. R. (L.)
Kenmare—McLean, N. B. (C.)

OHIO

Alliance—Scranton, H. G. (C.)
Belle Valley—Dew, F. R. (C.)
Caldwell—Kackley, E. D. (L.)
Cincinnati—Beaman, C. W. (L.)
Cusher, L. M. (C.)
Fayen, E. (C.)
Hendley, F. W. (M.)
Cleveland—Chase, C. H. (L.)
Herrick, F. C. (M.)
Moore, J. R. (C.)
Klaus, E. (C.)
Ruggles, C. L. (L.)
Columbus—Crotti, A. (M.)
Gaver, E. E. (M.)
Dalton—Deeds, C. R. (L.)
Deshler—Norris, O. L. (M.)
Fort Recovery—Watkins, C. N. (L.)
Fostoria—Hattery, H. A. (C.)
Fremont—Beach, W. H. (C.)
Hebron—Bozman, C. G. (C.)
Johnstown—Butt, G. K. (L.)
Jolly—Edwards, C. E. (C.)
McArthur—Haas, T. B. (C.)
McGuffey—Evans, R. K. (C.)
Morning Sun — Stewart, W. T. (C.)
Nelsonville—Dew, C. G. (L.)
Salem—Mitchell, E. W. (L.)
Steubenville—Erskine, E. D. (C.)
Toledo—Choliett, B. G. (C.)
Foster, S. D. (C.)
McCormick, E. J. (M.)
Toronto—Ferguson, G. A. (C.)
Warrensville—Mulky, C. (C.)
Youngstown—Rosenblum, A. M. (L.)

OKLAHOMA

Alva—Simon, W. E. (L.)
Beggs—Miner, J. L. (L.)
Hinton—Hobbs, A. F. (C.)
Hobart—Hollis, J. B. (C.)
Lindsay—Wilson, S. W. (C.)
Muskogee—Morrison, E. D. (C.)
Norman—Gable, J. J. (C.)
Oklahoma City—DeMand, F. A. (L.)
Tulsa—Stroud, E. F. (C.)

OREGON

Canyon City—Chilton, L. W. (C.)
Imbler—Moore, C. S. (C.)
La Grande—Graham, J. P. (M.)
Roseburg—Stewart, E. B. (L.)

PENNSYLVANIA

Alexandria—St. Clair, J. R. (L.)
Allentown—Lanshe, H. F. (L.)
Smyth, T. L. (C.)
Archbald—Moss, J. H. (C.)
Avalon—Frey, J. W. (C.)
Bloomsburg—Brobst, J. R. (L.)
Bolivar—Hendricks, C. S. (C.)
Braddock—Bulger, A. E. (C.)
Chatham—Moore, L. C. (C.)
Connellsville—Brooks, D. D. (C.)
Crofton Station — Brant, N. D. (C.)
Ellsworth—Botkin, W. L. (C.)
Erie—Lininger, C. B. (L.)
Hamlin—Mullen, O. J. (C.)
Lansdowne—McKenna, J. A. (L. C.)
Mahoney City—Fenton, I. D. (C.)
Marianna—Cobb, F. F. (C.)
McKeesport—Rutledge, R. L. (C.)
Mechanicsburg—Smith, H. A. (C.)
Meyersdale—Lichty, B. (C.)
Monongahela—Peterson, E. O. (M.)
Mont Alto—Carskadden, H. A. (M.)
Mount Pleasant—Burkholder, J. L. (C.)
Nanty Glo—Barr, J. W. (L.)
North Girard—Miller, A. B. (C.)
Parker Ford—Dietterich, C. D. (L.)
Philadelphia—Baker, H. F. (L.)
Donnelly, J. D. (C.)
Fox, C. S. (C.)
Hartman, J. C. (L.)
Heist, G. D. (L.)
Lerman, W. W. (C.)
Linton, J. D. (C.)
Maciejewski, A. S. (C.)
Powers, M. H. (C.)
Price, G. E. (M.)
Rush, E. (L.)
Thompson, E. H. (L.)
Pittsburgh—Boyd, D. H. (C.)
Bulford, W. (C.)
Dickinson, J. J. (C.)
Dodds, W. T. (L.)
Elkin, C. W. (C.)
Felton, H. M. (C.)
Hazlett, T. L. (L. C.)
Kennedy, D. D. (C.)
Kerr, J. P. (L. C.)
King, S. V. (L. C.)
Miller, L. O. (C.)
Nelan, T. G. (M.)
Schaefer, A. P. (L. C.)
Silver, D. (L. C.)
Simpson, S. C. (L.)
Stuart, L. H. (L.)
Sayre—Lundblad, W. E. (C.)
Slippery Rock—Campbell, F. D. (L.)
Susquehanna—Denman, A. J. (C.)
Vestaburg—Smith, P. C. (L.)
Washington—Brennan, J. L. (C.)
Waynesboro—Thomas, S. B. (L.)
Wilmerding—Pollock, H. O. (C.)

RHODE ISLAND

East Providence Center—Butler, B. J. (M.)
Providence—Bigelow, F. N. (L.)
Wakefield—Jones, J. H. (L.)

SOUTH DAKOTA

Aberdeen—Devereaux, T. J. (L.)
Mitchell—Jones, E. W. (C.)
Watertown—Kriesel, W. A. (C.)

TENNESSEE

Burns—Spencer, H. P. (L.)
Elkton—Wright, J. B. (C.)
Gillises Mills—Walker, G. I. (L.)
Knoxville—Carmichael, C. J. (L.)
Memphis—Walker, O. P. (L.)
Nashville—Lewis, M. S. (C.)

TEXAS

Arlington—Spencer, R. T. (L.)
Austin—Calaway, F. O. (L.)
Dallas—Hutcheson, M. L. (L.)
Fort Worth—Brannon, H. O. (C.)
Henderson—Deason, G. A. (L.)
Moody—Kuykendall, P. M. (C.)
Quanah—Jones, C. B. (L.)

UTAH

Brigham—Merrill, L. S. (L.)

VIRGINIA

Gore—Young, C. A. (L.)
Norfolk—White, J. W. (C.)
Phenix—Moore, R. A. (L.)
Richmond—Brunk, O. C. (C.)
Hulcher, J. (C.)
Shawver Mill—Neel, J. T. (L.)

WASHINGTON

Hoquiam—Anderson, A. E. (C.)
Seattle—Hewitt, H. H. (C.)
Spokane—Pope, E. F. (L.)

WEST VIRGINIA

Huntington—Cronin, D. J. (L.)
Jarrolds Valley—Porter, W. F. (L.)
Morgantown—Powell, H. C. (C.)
Parkersburg—Paden, R. H. (C.)
Rowlesburg—Howard, F. C. (C.)
Spencer—Staats, C. O. (M.)
Wheeling—Copeland, H. B. (L.)

WISCONSIN

Denmark—Hager, F. J. (C.)
Lake Geneva—Cottingham, M. D. (C.)
Madison—Cooksey, R. T. (L.)
Taylor, F. B. (L.)
Milwaukee—Kenney, C. J. (M.)
Mensing, E. H. (M.)
North Prairie—Hafemeister, E. F. (L.)
Park Falls—Riley, E. A. (C.)
Wausau—Bryant, J. R. (M.)

MEDICAL OFFICERS, U. S. NAVY, RELIEVED FROM ACTIVE DUTY

ALABAMA

Bessemer—McEniry, E. P.

CALIFORNIA

Eureka—Wallace, C. T.
Los Angeles—Dorn, N. F.
Santa Cruz—Bush, B. H.

COLORADO

Denver—Wolf, J. A.

CONNECTICUT

Norwalk—Cram, G. E.

GEORGIA

Atlanta—Turner, J. W.

ILLINOIS

Chicago—Hickey, H. L.
Melnikoff, L. R.
Great Lakes—Duggan, J. A.
Waukegan—Taber, R. B.

IOWA

Dubuque—Traub, E. F.

KENTUCKY

Clay—Sigler, B. H.

MASSACHUSETTS

Boston—Benn, H. C.
Brennan, J. T.
Hammond, J. W.
Bridgewater—Whelan, E. V.

MICHIGAN

Ann Arbor—Jacoby, A. L.

MISSISSIPPI

Jackson—Collette, A.

MISSOURI

Hopkins—Robb, E. F.
Joplin—Lucas, H. R.
Kansas City—Broderick, D. E.
St. Joseph—Liberman, D. L.

NEBRASKA

Lincoln—Williams, J. B.

NEW YORK

New York—Littwin, C. B.
Lore, J. M.
Rosenstein, H.
Rochester—Vollertsen, B. H.

OHIO

Akron—Jones, J. L.

PENNSYLVANIA

Philadelphia—DeFoney, C. G.
Vail, W. P.
Pittsburgh—Richey, D. G.

SOUTH DAKOTA

Cheyenne Agency—Johnson, T. S.

ORDERS TO OFFICERS OF THE MEDICAL CORPS, U. S. ARMY

Alabama

To Camp Meade, Md., base hospital, from Army Medical School, Capt. R. D. BROWN, Mobile.

To Hot Springs, Ark., from Camp Upton, Major J. W. WATTS, Flat Top.

To report to the commanding general, Southern Department, from Camp Dix, Major G. A. O'CONNELL, Birmingham.

Arkansas

To Fort Des Moines, Iowa, from St. Louis, Capt. A. A. BLAIR, Scranton.

To Report to the commanding general, Southern Department, from Hot Springs, Major J. E. ASH.

California

To San Francisco, Calif., Letterman General Hospital, from Camp Kearney, Lieut. H. R. KING, San Francisco; from Newport News, Capt. A. L. MUNGER, Jr., Sacramento.

The following order has been revoked: *To Fort Des Moines, Iowa*, from Camp Kearney, Lieut. H. J. WRIGHT, Jr., San Francisco.

Colorado

To Denver, Colo., from Camp Kearney, Capt. F. N. STILES, Grand Junction.

To Fort McHenry, Md., from Camp Lee, Lieut. R. L. CHARLES, Denver.

Connecticut

To New Haven, Conn., from Houston, Capt. A. F. BRIDES, New Haven.

District of Columbia

To Fort Sheridan, Ill., from Camp Dix, Lieut.-Col. R. T. MORRIS, Washington.

Florida

To report to the commanding general, Southern Department, from Camp Jackson, Major G. W. DUPREE, Blue Creek.

Georgia

To Spartanburg, S. C., from Camp Dix, Lieut. C. J. WELLBORN, Blairsville.

Illinois

To Camp Grant, Ill., from Camp Dix, Major C. L. BARNES, Chicago.

To Fort Sheridan, Ill., from Camp Dix, Capt. R. a'B. STEPHENSON, Chicago.

To Fort Snelling, Minn., from St. Louis, Major D. E. EGAN, St. Charles.

Indiana

To East View, N. Y., from Camp Dix, Major H. M. HOSMER, Gary.

To Hoboken, N. J., Capt. E. F. SOMMER, Indianapolis.

Iowa

To Fort Bayard, N. M., from Camp Pike, Capt. J. H. WHITELEY, Bonaparte.

To Fort Des Moines, Iowa, from Camp Dix, Capt. E. D. McCLEAN, Oskaloosa; from Fort Sheridan, Capt. W. D. McFAUL, Miles.

To Mineola, N. Y., Hazelhurst Field, from Fort Des Moines, Lieut. F. H. THORNE.

Kansas

To Hot Springs, Ark., from Camp Pike, Lieut. E. E. WHITE, Stockton.

Kentucky

To Washington, D. C., Surgeon-General's Office, from Camp Zachary Taylor, Col. H. F. PIPES.

Louisiana

To Fort Jay, N. Y., from Camp Dix, Capt. L. V. LOPEZ, New Orleans.

To report to the commanding general, Southern Department, from Hot Springs, Major C. H. MOSELY, Hodge.

Massachusetts

To report to the commanding general, Eastern Department, from Camp Dix, Capt. C. W. DeWOLF, Somerville. Northeastern Department, from Camp Dix, Lieut. F. S. HALE, Brookline.

To Washington, D. C., surgeon-general's office, from Camp Dix, Lieut.-Col. H. A. LANPHER, Chester.

The following orders have been revoked: *To Plattsburg Barracks, N. Y.*, from Boston, Capt. F. A. DAVIS, Boston. *To Spartanburg, S. C.*, from Camp Dix, Capt. B. A. GODVIN, Boston.

Michigan

To Fort Leavenworth, Kan., from Fort Riley, Capt. C. G. WENCKE, Battle Creek.

Mississippi

To Fort McHenry, Md., from Surgeon-General's Office, Capt. M. C. HENRY, Bentonia.

Missouri

To Camp Dodge, Iowa, from New Cumberland, Pa., Lieut. J. H. WILLIAMS, Hume.

To Camp Jackson, S. C., from Camp Dix, Lieut.-Col. H. H. SMITH, St. Joseph.

To Fort Riley, base hospital, from Hoboken, Major J. P. BEESON, South West City.

To Fort Sill, Okla., from St. Louis, Col. B. J. EDGER, Jr.

New Jersey

To Camp Gordon, Ga., as camp surgeon, from Hoboken, Col. K. NELSON.

To Fort McPherson, Ga., from Hoboken, Col. L. P. WILLIAMSON.

To Fox Hills, N. Y., from Cape May, Col. W. F. TRUBY.

To Oteen, N. C., from Hampton, Va., Lieut. W. G. SHEMELEY, Jr., Camden.

To report to the commanding general, Eastern Department, from Camp Dix, Capt. N. HELLER, Newark.

To Walter Reed General Hospital, D. C., from Camp Dix, Col. J. CASPER.

To Washington, D. C., Surgeon-General's Office, from Hoboken, Col. H. C. COBURN, Jr.

New York

To Camp Gordon, Ga., from Camp Dix, Lieut. J. F. LEWIS, New York.

To Camp Lee, Va., base hospital, from Colonia, Capt. C. W. FIELD, New York.

To Fort D. A. Russell, Wyo., from Camp Upton, Col. J. R. SHOOK.

To Fort Omaha, Neb., from Fort Crook, Lieut. A. G. COOK, Brooklyn.

To Fox Hills, N. Y., from Camp Dix, Capt. J. K. CRANDELL, New York; from Camp Upton, Capt. J. H. EVANS, Virgil.

To Hoboken, N. J., from Camp Dix, Major G. P. OLCOTT, Jr., New York.

To New Haven, Conn., from Spartanburg, S. C., Lieut. S. PERLMAN, Brooklyn.

To Otisville, N. Y., from Camp Dix, Capt. C. W. PERKINS, New York; from New Haven, Capt. E. G. WHIPPLE, Rochester.

To report to the commanding general, Eastern Department, from Camp Dix, Major C. A. KRAUSS, Watervliet.

To Spartanburg, S. C., from Camp Lee, Capt. E. W. BROWN, Mount Kisco.

To Walter Reed General Hospital, D. C., from Camp Lee, Lieut. C. W. SYMONDS, New York.

To Washington, D. C., Surgeon-General's Office, from Hoboken, Lieut.-Col. H. EMERSON, New York.

North Carolina

To Camp A. A. Humphreys, Va., from Washington, Capt. J. THAMES, Wilmington.

Ohio

To Camp Jackson, S. C., base hospital, from Boston, Capt. H. B. DORNBLASER, Springfield.

Oklahoma

To Fort Riley, base hospital, from Camp Dix, Capt. N. W. CAMPBELL, Poteau.

To Hoboken, N. J., from Kearny, N. J., Lieut. H. C. BRADLEY, Oklahoma City.

Pennsylvania

To Biltmore, N. C., from Camp Dix, Lieut.-Col. A. DARE, Philadelphia.

To Fort McHenry, Md., from Cape May, Lieut. H. W. SCARLETT, Bryn Mawr.

To Hampton, Va., from Camp Dix, Lieut. W. M. DONOVAN, Philadelphia.

To Otisville, N. Y., from Hoboken, Capt. S. A. LEVEY, Pittsburgh.

To report to the commanding general, Eastern Department, from Camp Dix, Capt. J. R. MARTIN, Philadelphia.

Rhode Island

To Muscle Shoals, Ala., from Camp Lee, Capt. A. A. WEEDEN, Woonsocket.

To Walter Reed General Hospital, D. C., from Camp Meade, Lieut. J. E. McCABE, Providence.

South Dakota

To Fort Sheridan, Ill., from Camp Dix, Lieut.-Col. L. B. PECK, Fort Meade.

Tennessee

To Carlisle, Pa., from Camp Upton, Capt. W. A. SHELTON, Oliver Springs.

Texas

To Fort Bayard, N. M., from Camp Kearney, Capt. W. C. JOHNSON, Del Rio.

To Fort McPherson, Ga., from Fort Sam Houston, Lieut.-Col. F. C. A. KELLAM, Jr.

To Indianapolis, Ind., from Fort Sill, Lieut. G. P. RAWLS, San Augustine.

To report to the commanding general, Southeastern Department, from Camp Dix, Major, C. R. BULLOCK, Snyder.

Virginia

To Camp Lee, Va., from Camp Dix, Capt. C. M. EASTER, Chincoteaque Island.

The following order has been revoked: *To Hampton, Va.*, from Plattsburg Barracks, Capt. C. D. KELLAM, Norfolk.

West Virginia

To Fort Jay, N. Y., from Camp Dix, Capt. H. W. KEATLEY, Huntington.

To Fort McHenry, Md., from Camp Dix, Capt. J. E. HUBBARD, Hinton.

To Spartanburg, S. C., from Oteen, Capt. G. H. BARKSDALE, Charleston.

Wisconsin

To Camp Shelby, Miss., from Fort Leavenworth, Lieut. J. S. ALLEN, Norwalk.

To Fort McPherson, Ga., from Camp Dix, Major G. PERRY, Amery.

ORDERS TO OFFICERS OF THE UNITED STATES PUBLIC HEALTH SERVICE

Asst. Surg. Gen. R. H. CREEL, proceed to Harrisburg, Pa., on duty in connection with the Pennsylvania State Quarantine.

Surg. C. H. GARDNER, relieved at San Antonio, Texas; proceed to Buffalo, N. Y., and assume charge of the Marine Hospital.

Surg. H. W. WICKES, relieved at the Marine Hospital, Buffalo, N. Y. proceed to Evansville, Ind., and assume charge of the Marine Hospital.

Surg. J. D. LONG, detailed for duty as Supervisor of District No. 12, for the examination and care of War Risk beneficiaries, with headquarters at San Francisco, Calif.

Surg. H. McG. ROBERTS, relieved at the Cape Charles Quarantine Station, proceed to the Marcus Hook Quarantine Station, and assume charge.

Surg. GEORGE L. COLLINS, detailed as Supervisor of District No. 3, for the examination and care of beneficiaries of the War Risk Insurance Bureau, with Headquarters at Philadelphia, Pa.

Passed Asst. Surg. J. G. TOWNSEND, relieved at Little Rock, Ark. Detailed as Supervisor of District No. 4, for the examination and care of beneficiaries of the War Risk Insurance Bureau, with headquarters at Baltimore, Md.

Passed Asst. Surg. C. E. WALLER, proceed to Santa Fe, N. M., to assist in the organization and administration of the Health Department of New Mexico.

Passed Asst. Surg. C. V. AKIN, proceed to Washington, D. C., for temporary duty.

Asst. Surg. T. B. H. ANDERSON, relieved from duty in the office of the Chief Medical Advisor, Bureau of War Risk Insurance. Proceed to Ellis Island, N. Y., for duty.

Asst. Surg. J. K. FULLER, proceed to Baltimore, Md., for conference concerning care of neuropsychiatric patients.

Passed Asst. Surg. R. W. BROWNE (Reserve), relieved from duty in the Venereal Disease Division; proceed to Boston, Mass., for duty at the Marine Hospital.

Passed Asst. Surg. J. B. LAUGHLIN (Reserve), relieved at the Norwegian Hospital, Brooklyn, N. Y.; proceed to Washington, D. C., for duty in the Division of Marine Hospitals and Relief.

Passed Asst. Surg. GEORGE E. MELVIN (Reserve), ordered to active duty in the Reserve Corps of the Public Health Service; proceed to the Marine Hospital, Stapleton, N. Y., for duty.

Asst. Surg. JOHN E. COX (Reserve), ordered to active duty in the Reserve Corps of the Public Health Service, effective July 1, proceed to Jacksonville, Florida, for duty in the U. S. Public Health Service Hospital.

Asst. Surg. ROBERT T. FRANKLIN (Reserve), ordered to active duty in the Reserve Corps of the Public Health Service, effective July 1. Proceed to Mobile, Ala., for duty in the Marine Hospital.

Asst. Surg. B. J. LaFOND (Reserve), ordered to active duty in the Reserve Corps of the Public Health Service, effective July 1, proceed to Boston, Mass., for duty in the Marine Hospital.

Asst. Surg. CARL W. SMITH (Reserve), ordered to active duty in the Reserve Corps of the Public Health Service, effective July 1; proceed to Jacksonville, Fla., for duty in the U. S. Public Health Service Hospital.

Asst. Surg. E. S. SUGG (Reserve), ordered to active duty in the Reserve Corps of the Public Health Service; proceed to St. Louis, Mo., for duty in the U. S. Marine Hospital.

Asst. Surgeon JOHN F. WATKINS (Reserve), ordered to active duty in the Reserve Corps of the Public Health Service; proceed to San Francisco, Calif., for duty in the Marine Hospital.

Act. Asst. Surg. OSWALD E. DENNEY, proceed to San Francisco, Calif., and report to the Supervisor of District No. 12 for duty.

Act. Asst. Surg. LYNNE A. FULLERTON, proceed to San Francisco, Calif., for duty in the Marine Hospital.

Act. Asst. Surg. LEO JACOBS, proceed to Greenville, S. C., for duty in the U. S. Public Health Service Hospital.

Act. Asst. Surg. MILLARD KNOWLTON, proceed to Missoula, Mont., to address a State Health Officers' Convention, July 7-8, 1919.

Act. Asst. Surg. JOHN F. LANCASTER, relieved at the Marine Hospital, Mobile, Ala., proceed to the Mobile Quarantine Station for duty.

Act. Asst. Surg. J. BALDWIN McCOMB, proceed to Washington, D. C., for conference relative to venereal disease control.

Act. Asst. Surg. W. F. REASNER, relieved at Leavenworth, Kan., proceed to Portsmouth, Va., for duty.

Act. Asst. Surg. WILLIAM H. WALSH, proceed to Markleton, Pa., to inspect the Markleton Sanatorium, to determine its desirability for the treatment of tuberculosis.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ILLINOIS

Society Visits General Hospital.—The visit of the Aux Plaines Branch of the Chicago Medical Society to U. S. General Hospital No. 28, Fort Sheridan, June 25, was participated in by more than 500. The party was welcomed by William N. Bispham, Col., M. C., U. S. Army, commander of the hospital, a surgical clinic was held in Ward 52, and then the party was conducted through the entire hospital, including the educational department.

Violators of Medical Practice Act Fined.—E. H. Madison of 3333 Calumet Avenue, Chicago, practicing medicine as a "magnetic healer," and Mrs. Anna Marfick of East St. Louis, practicing as midwife, were arrested by the Illinois Department of Registration and Education for violating the Medical Practice Act, and were each fined $50 and costs. Mrs. Anna Comfort of East St. Louis was also arrested for violating the Medical Practice Act and was fined $100 and costs.

Personal.—Dr. Florence R. Kremer has resigned as assistant physician at the Kenilworth Sanatorium, to accept an appointment with Chesapeake and Ohio Hospital, Clifton Forge, Va.——Dr. Mark Greer, Vandalia, has been awarded the Military Cross by the British government for bravery in dressing wounded men under shell fire in France, in September, 1918.——Dr. Emmett A. Garrett, Peoria, has been discharged as lieutenant-colonel, M. C., U. S. Army, after nearly a year of service abroad, and has returned home.——Dr. Henry B. Brown, Lincoln, has been appointed local surgeon of the Chicago and Alton Railroad, succeeding Dr. Frank M. Ewing, deceased.

Chicago

Dope Pedler Arrested.—Ann Scott Rusling was arrested, June 30, by Dr. William H. Sage and his agents, charged with the illegal sale of narcotic drugs, which she is said to have secured by obtaining blank prescription forms and forging the names of Chicago physicians to them.

Dispensary Clinics.—Organized and financed by the National Catholic War Council, clinics have been opened at Mercy Hospital, and at the Hospital of St. Mary of Nazareth, and a third clinic will be opened at St. Joseph's Hospital, about August 1. A social service department is operated in connection with each clinic. The clinic is open from 9 a. m. to 4 p. m., and eleven specialties are covered. The Mercy Hospital clinic is housed in the rooms of the late Dr. John B. Murphy. In the Hospital of St. Mary of Nazareth, rooms have been reconstructed for this purpose, and in St. Joseph's Hospital ten rooms in the new wing of the building have been set apart for the use of the clinic. The staff of the hospital in each case is the staff of the clinic.

Personal.—Dr. Evarts A. Graham has been appointed professor of surgery in Washington University, St. Louis, succeeding Dr. Fred. T. Murphy, resigned. Dr. Graham will be head of the department of surgery and will have charge of the surgical service in Barnes Hospital and Children's Hospital, St. Louis.——Dr. Earl V. Hill of the sanitary bureau of the department of health has been appointed acting chief sanitary inspector, succeeding Mr. Charles B. Ball, who has been given seven months' leave of absence that he may serve in the housing commission of the Y. M. C. A., in France.——Dr. Norval H. Pierce has been elected president of the American Laryngological Society.——Major Charles H. Parkes has just reached New York from overseas, after two years' service in the Medical Reserve Corps.——Dr. William G. Lee has returned from abroad and resumed his practice.

INDIANA

Personal.—Major Paul F. Martin, Indianapolis, accepted an offer of the commissioner to Europe of the American Red Cross to become consulting surgeon to Red Cross hospitals in Russia.

Sanatorium for Four Counties.—County officials of La Grange, Noble, Steuben and De Kalb held a meeting at

Rome City, June 23, looking toward the establishment of a district tuberculosis sanatorium.

Death of Mrs. Bulson.—Mrs. Eva Maude Bulson, wife of Dr. Albert E. Bulson, Fort Wayne, a woman of rare intellectual attainments, who had been ill for more than three years with heart disease, died at her home, June 27.

Venereal Disease Clinics.—Surg. William F. King, U. S. P. H. S., who is in charge of the venereal disease clinic at Indianapolis, has appealed to the city board of health and city council to appropriate $7,500 that the clinic may be kept in full operation.——Howard County council, June 24, made a special appropriation of $1,500 for the establishment of a clinic for venereal diseases.

Fresh Air School.—The report of the Theodore Potter Fresh Air School, conducted on the Technical High School grounds, Indianapolis, was made public recently by Mary A. Meyer, executive secretary of the Marion County Tuberculosis Association. The records made for the school year of 1918-1919, in the advancement of the health of the children, were considered wonderful by the officials of the tuberculosis association. The records were somewhat lower, however, than in previous years, because of the influenza epidemic and because for a part of the year the schools were closed while soldiers occupied the buildings. Fifty-four pupils were enrolled in the outdoor school during the year. Several made remarkable gains in weight and practically all made some gain. The highest gain made by a single child was 30¼ pounds.

Eight-Hour Day for Doctors.—The Vanderburg County Medical Association, Evansville, has voted to go on an eight-hour day basis, as nearly as possible, and to increase the fees about 50 per cent. A committee has been appointed to work out a scale of prices.——Lafayette and West Lafayette physicians have adopted a new schedule of fees, which is a decided advance over charges that have prevailed there for the last few years. Office calls which have been $1 are $2 under the new schedule. House calls which are now $2 have been raised to $3, and calls between 7 p. m. and 7 a. m. are raised to $4. Telephone consultation and advice calls for a fee of $1. Calls outside of the city are to be charged for at the rate of $1 a mile for the first ten miles and 50 cents for each additional mile, plus $3. Consultation will cost $15 in Lafayette and West Lafayette. Outside of these cities the charge will be $15 plus the same mileage as in the case of calls.

MARYLAND

Infantile Paralysis Appears.—Two cases of infantile paralysis and one death from the malady were reported to the health department during the past week. The death occurred in a local hospital. Officials of the health department said that there was no indication of a return of infantile paralysis this summer, although there may be some sporadic cases and an occasional fatality. The city's general death rate was higher last week than it has been for some time, 206 persons having died from all causes, compared with 203 for the corresponding period of 1918. For a month or two the weekly record of deaths has been under 200. Births for the week totaled 220.

Personal.—Drs. Hugh Hampton Young and William S. Thayer, Baltimore, are to go abroad, Dr. Young to go over with the British and French army authorities problems met with during the war as director of urology for the A. E. F. and Dr. Thayer to do some work for the National Research Council. Both expect to be away for about two months. Dr. Young, in addition to his work with the French and British authorities, will attend an international health conference to be held in Brussels the latter part of this month. During his absence, Drs. John T. Geraghty and William A. Frontz will conduct his department at the Brady Institute.——Col. Henry Page, a regular army medical officer, whose home is in Princess Anne, Md., has succeeded Lieut.-Col. Harry S. Purnell as commandant at the U. S. Army General Hospital No. 2, Fort McHenry, the appointment taking effect July 4.

Health Department Warns of Eyestrain.—The health department has issued an appeal for the cooperation on the part of parents in correcting this summer physical defects among 8,000 schoolchildren, that these schoolchildren may do more effective work when they return to their books in the autumn. These defects are serious enough to need medical attention and advice for their correction. For the most part, it is said, the children are suffering from eyestrain, making it impossible for them to see the blackboards in the schoolrooms. Fully 400 are back in their grades because of this defect. Others have bad teeth, adenoids and diseased tonsils. The officials in charge of this work are most anxious through the cooperation of the parents and the children to have these deviations from the normal corrected as far as possible during the vacation period, and to accomplish this purpose the school nurses will continue their work throughout the summer. The children deserve from their parents and from the community proper opportunity to be relieved of the handicaps. To this end, each of these children has been given a card indicating the defect or defects needing correction and advising the parents to secure medical attention. It is entirely in the hands of the parents to make their own choice of the private physicians or the dispensaries. The health department school nurses will arrange for the children's visits to a medical consultation on the request of the parents.

MASSACHUSETTS

Therapist Found Guilty.—Ernest Carreiro, a "therapist" of Boston, charged in three counts with practicing medicine without being registered, and in three others with holding himself out to be a practitioner without being registered, is said to have been found guilty and fined $100 in each of the six counts. He appealed and was held in bonds of $1,500 for the superior court.

Hospital Notes.—June 25, the base hospital at Camp Devens was virtually closed. Since the institution was opened in September, 1917, more than 40,000 patients have been admitted to this institution. One of the buildings of the hospital group is to be maintained as a cantonment hospital for the time being.——The Boston Floating Hospital has opened its twenty-fifth season. Dr. Hyman Greene, Boston, will be the resident physician, and Miss Sarah A. Eagan will continue as superintendent of nurses.——An addition is immediately to be built to the Worcester City Hospital at a cost of $70,000.

Personal.—Dr. Howard A. Streeter, Pittsfield, state health officer for the Berkshire district, was appointed, June 1, 1919, chief of the subdivision of venereal disease, state department of health.——Dr. George H. Bigelow, Framingham, has returned home from service in the Medical Corps overseas, and has been appointed temporary epidemiologist in the state health department, succeeding Dr. Bernard W. Carey, Winthrop, who has been made head of the division of communicable disease.——Dr. John S. Hitchcock, Northampton, has resigned as director of the division of communicable disease in the state department of health.——Dr. Emily C. MacLeod, Boston, has been selected as a member of a unit of women physicians to assist in the relief of Serbia.

MISSOURI

Unlicensed Practitioner Prosecuted.—Proceedings have been brought against Louis Tiemonti, Kansas City, charged with practicing medicine without a license.

Occupational Therapists Incorporated.—The Missouri Association of Occupational Therapy, recently organized in St. Louis, has been incorporated to teach occupational therapy as an aid in the reconstruction of disabled soldiers and persons injured in industrial establishments. Dr. G. Canby Robinson, St. Louis, is president of the organization.

Medical Veterans Form Association.—The Medical Veterans of the World War living in southwestern Missouri held a meeting for organization at Springfield, June 4, and elected the following temporary officers: president, Dr. William A. Delzell, and secretary, Dr. Horace A. Lowe, both of Springfield. Invitations have been sent to all physicians in the southwestern part of the state who served in the Army, Navy or Public Health Service to attend the next meeting to be held in Springfield, July 9.

Personal.—Dr. Fred T. Murphy, St. Louis, professor of surgery in Washington University since 1911, commander of Base Hospital Unit No. 21, and later on duty with the American Red Cross in France, was tendered a dinner by the faculty of the medical school of Washington University on his retirement from the faculty.——Dr. William M. Girdner, Chillicothe, has been elected president of the local board of health.——Dr. Samuel W. Chandler, Cassville, has been elected president of the Southwestern Missouri Medical Society.——Dr. John W. Good, Fordland, was operated on at the Springfield Hospital, June 14.——Dr. William B. Sisson, Kahoka, has gone to Siberia where he will be engaged in work for the American Red Cross.

NEW JERSEY

Hospital Staff Organized.—The hospital staff of the Salem County Memorial Hospital, at its meeting for organization, elected Dr. Clifford M. Sherron, Salem, president, and Dr. William H. James, Pennsville, secretary.

War Surgeons Organize.—A New Jersey society of Medical Veterans of the World War was organized at Spring Lake, June 27. Dr. Henry B. Costill, Trenton, medical aid to the governor in selective service work, was chosen president; Dr. W. Blair Stewart, Atlantic City, secretary and treasurer; and Drs. John C. McCoy, Paterson; Alexander Marcy, Jr., Riverton, and Britton D. Evans, Morris Plains, vice presidents. There are 2,028 physicians eligible for membership out of 3,100 in the state, as follows: 814 from the Army, 28 from the Navy and 1,164 from selective service boards.

NEW MEXICO

Personal.—Mrs. Nina Otero-Warren, Santa Fe, has been appointed chairman of the New Mexico State Board of Health, succeeding Holm O. Bursum, resigned.——Dr. Oliver T. Hyde, Albuquerque, has been appointed a member of the board in place of Dr. John F. Pearce.

Medical Examiners Organize.—At the annual meeting of the state board of medical examiners, held in Santa Fe, Dr. James A. Massie, Santa Fe, was elected president; Dr. Creighton H. Ferguson, Tucumcari, vice president, and Dr. Robert E. McBride, Roswell, secretary-treasurer.

NEW YORK

Personal.—Dr. G. Herbert Carter, Huntington, has been elected president; Dr. Irving F. Barnes, Oyster Bay, vice president, and Dr. James H. Shawe, Huntington, secretary-treaturer of the North Shore Medical Association.——Dr. William A. Bing, Canandaigua, has been appointed superintendent of the Ontario County Tuberculosis Sanatorium, Oakmount, succeding Dr. Stoughton R. Wheeler, East Bloomfield.

Alumni Election.—At the annual meeting of the Alumni Association of the Medical Department of the University of Buffalo, held in Buffalo, June 19 to 21, under the presidency of Dr. William F. Jacobs, '08, Buffalo, the following officers were elected: president, Dr. John A. Stapleton, '91, Rochester; secretary, Dr. Abraham H. Aaron, '12, Buffalo (reelected); treasurer, Dr. Harry N. Feltes, '04, Buffalo, and trustee, Dr. William F. Jacobs, '08, Buffalo.

Health Conference.—The health conference held at Saratoga Springs, June 24 to 26, showed a registration of more than 1,000 health officers, physicians, nurses and public health workers besides many officials and staff members of the state health department and interested visitors. All phases of public health work were discussed by experts of international reputation. Much information was given regarding the work contemplated by the health department. A model health center occupied a suite of six rooms at the Grand Union Hotel. Here was conducted a public tuberculosis clinic, a clinic for the examination and treatment of persons afflicted with venereal disease, exhibits of child welfare work, a laboratory and a health officers' office. The healthmobile, an automobile built specially for the health department in carrying on public health education, was exhibited. This car is equipped with a stereopticon and moving picture machine run by power developed by the automobile and contains a number of exhibits showing the value of maintaining health and the prevention of infection. It is planned to send this automobile with a lecturer into sparsely settled communities.

Results of Health Survey.—The May issue of *Health News* is entitled the "Health Administration Number" and gives the results of the recently completed survey of health administration in the cities of New York state. This survey has served to call the attention of municipalities to the excellencies and deficiencies of their health departments. Certain defects were found to be nearly universal. "Among these were the inclusion under the health department of plumbing inspection, garbage collection, and similar activities, a vicious substitute, since a community was thereby led to believe it was spending a dollar per capita for health, whereas it might be spending but a fraction of that amount for proper health functions." The second defect was found in the lack of coordinated effort between public and private agencies, leading to a waste of public funds through failure to pursue a sound and sensible policy. Another defect and one that had a marked influence on the general efficiency of the health department, was the lack of adequate records and the failure to make adequate use of them when they existed. It is pointed out that to secure appropriations the health department should be able to show its need, and the best way to do this is to show the amount, character, and desirability of its work.

New York City

Incorporate Rheims Hospital.—Supreme Court Justice Donnelly has approved the incorporation of the American Memorial Hospital which is to be erected at Rheims, France, under the auspices of the American Fund for French Wounded. Three hundred thousand dollars has already been raised toward the $450,000 required for the first wing of the hospital.

Dr. Ward Liable for Fraud.—Dr. Francis R. Ward, director of the so-called "Electro-Medical Scientists," with offices in Brooklyn and New York, is said to have been held liable by Justice Marks, in the Sixth District Municipal Court, in an action for fraud and deceit brought by Julius B. Grond, a former patient. Judgment was awarded Mr. Grond for $100 and costs.

Registration of Drug Addicts Goes into Effect.—Beginning July 7, every drug addict in this city must register with the state department of narcotic drug control at 128 Prince Street, and must obtain a dosage card before he can have any drug prescribed for him. This card bears the name, address and description of the addict, and the name of his or her occupation and employer. The addicts will be known by number. It is believed that this card system will make it impossible for the addict to obtain a prescription from one physician and to go to another physician and get another prescription. Physicians are obliged, when an incorrect dosage card is presented to them, to keep it, report the holder and return the card to the department office in this city. A new set of rules issued by the department of narcotic drug control sets forth in detail the system to be followed.

Personal.—Dr. William E. Studdiford has resigned the professorship of gynecology and obstetrics at the University and Bellevue Hospital Medical College in order to succeed Dr. Edwin Bradford Cragin, deceased, as head of the Sloane Hospital for Women.——Dr. Frederic C. Holden, Brooklyn, has been appointed professor of obstetrics and gynecology at the University and Bellevue Medical College and head of the gynecologic service at Bellevue Hospital to succeed Dr. Studdiford.——Dr. Walter T. Dannreuther has been appointed assistant professor of gynecology in the New York Post-Graduate Medical School and Hospital.——Dr. and Mrs. Howard Canning Taylor have sailed for Cuba.——Dr. Edward S. Godfrey, Jr., Albany, N. Y., epidemiologist to the division of communicable disease of the state department of health, has returned from France, where he has been connected with the American Red Cross in the capacity of chief of the health inspection service.——Dr. Angelo L. Soresi has returned to New York after four years' service in the Italian army.

NORTH DAKOTA

New Officers.—The twenty-third annual meeting of the North Dakota State Medical Association was held at Grand Forks, June 23 to 25, under the presidency of Dr. Edgar A. Pray, Valley City, and the following officers were elected: president, Dr. William P. Baldwin, Casselton; president-elect, Dr. Fred E. Ewing, Kenmare; vice presidents, Drs. Harley E. French, University, and Eric P. Quain, Bismarck; secretary, Dr. Hezekiah J. Rowe, Lisbon (reelected); treasurer, Dr. William F. Sihler, Devils Lake; delegate to the American Medical Association, Dr. Edgar A. Pray, Valley City; alternate, Dr. Alexander J. McCannel, Minot, and councilors, Drs. George F. Drew, Devils Lake; Lee B. Greene, Edgeley, and Ole A. Knutson, Buxton, for three years; Drs. Edward M. Ranson, Minot; Frederick L. Wicks, Valley City; LeRoy G. Smith, Medina, and Charles MacLachlan, New Rockford, for two years, and Paul H. Burton, Fargo, Francis R. Smyth, Bismarck, and John E. Countryman, Grafton, for one year. The society also recommended to the governor the following names for appointment to the state board of medical examiners: Drs. Gustavus J. McIntosh, Devils Lake; Victor J. LaRose, Bismarck, and Frank W. MacManus, Williston.

OHIO

District Supervisors Needed.—Eight physicians experienced in public health work are being sought by the state department of health to fill vacancies of district health supervisors at salaries of $2,500 a year.

Public Health Stations Established.—The American Red Cross has established thirteen public health stations in Cincinnati under the supervision of the board of health at which

any person may consult a physician and have a thorough physical examination made without expense.

Personal.—Dr. John R. McDowell, Columbus, director of the division of tuberculosis of the state department of health, who has been on leave of absence for military service for two years, has returned to his work in the state health department.——Dr. Robert J. Jones, Greenfield, has been appointed division surgeon of the Baltimore and Ohio system. ——Dr. William S. Baldwin, Lorain, who has been engaged in child welfare work for the American Red Cross in Jerusalem, reached New York on his return, July 2.——Dr. William H. White, Cleveland, lost his fight for reinstatement as chief medical examiner for the state industrial commission, when the supreme court reversed the decision of the Franklin County court, June 24.——Dr. Leroy B. Humphrey, Akron, has been appointed captain, M. C., Ohio, N. G., and assigned to the 146th Infantry.——J. C. Eberts, health officer of Chillicothe, has resigned.——Dr. Harry H. Myers, Shelby, has been appointed medical and welfare director of the plant of the Ohio Brass Company, Mansfield.

PENNSYLVANIA

Philadelphia

Money Raised for Italian Hospital.—Approximately $80,000 was raised at the Forrest Theater, June 29, in a campaign for $500,000 for the construction of a hospital and orphanage for Italians, in this city. The location of the hospital has not been decided.

Movies to Aid Tuberculosis Fight.—To bring forcibly before the people the menace of tuberculosis and to educate them in the best methods of combating the disease, the Philadelphia Tuberculosis Committee will stage a moving picture educational campaign during the summer.

Red Cross Supplies to Hospital.—More than 100 packing cases filled with bedding and surgical supplies left over at the end of the war, have been turned over to thirteen hospitals in this city and one in Chester, by the Southeastern Chapter of the American Red Cross. Hospitals receiving the supplies are: Lying-In Charity, Preston Retreat, Woman's Hospital, Woman's Homeopathic, Gynecean, Salvation Army, Philadelphia General, Jefferson, Chestnut Hill, Rush, St. Vincent, Jewish Maternity, City Maternity and Chester.

Health Department Training Camp.—Dr. Edward Martin, state health commissioner, has planned a state-wide organization of the 6,000 who are in the employ of the state health department and the first summer camp established by that department for intensive training was opened at Mount Alto, June 22. The first course terminated, July 2, and, July 6, a second group began its course of training. The plan of operation is to ask each of the 6,000 members of the health department in the state to secure ten additional volunteers from those who until recently were identified with welfare work during the war period. Each of these groups of ten will be instructed by a graduate of the course at Mount Alto.

WASHINGTON

Personal.—Dr. Harry Vanderbilt Wurdemann, Seattle, recently chief of the eye, ear, nose and throat section of the base hospital at Camp Lewis, Wash., has been commissioned major, M. R. C., U. S. Army.

Discourage Contract Service.—The Spokane County Medical Society, at its meeting, June 12, adopted an amendment to the rules providing for discontinuance of contract service excepting with interstate railway companies.

Graduate Medical Lectureship.—The University Extension Service of the University of Seattle announces the third annual graduate medical lectureship to be held in Seattle, July 14 and 18. Dr. Dean D. Lewis, Chicago, will give five lectures on surgery and Dr. Charles Lyman Greene, St. Paul, will give five lectures on medical diagnosis. Both of these lecturers have been on duty for a long time at important military posts. A series of clinics and laboratory demonstrations will be given during the same period. For this course there is a fee of $10.

WISCONSIN

Personal.—Dr. Bruno L. Schuster, Albany, N. Y., has resigned as full-time health officer of Wausau.

New County Officers.—At the last meeting of the Manitowoc County Medical Association, held in Manitowoc, Dr. John M. Kelley, Cato, was elected president, and Dr. Erwin C. C. Cary, Reedsville, secretary-treasurer.

CANADA

Dominion Physicians Meet.—The fiftieth annual meeting of the Canadian Medical Association took place in Quebec City, June 25 to 27. Dr. Jasper Halpenny, Winnepeg, delivered the address in surgery, and Dr. William S. Thayer, Baltimore, the address in medicine. Dr. Robert E. McKechnie, Vancouver, was elected president, and the next annual meeting will take place in that city in 1920.

Licenses Revoked.—A number of Ontario physicians have been suspended by the Ontario Medical Council and their licenses to practice revoked from three months to a year for writing too many prescriptions under the Ontario Temperance Act. Several others have been summoned before the Ontario License Board and warned that their prescriptions will not be filled if they persist in abusing their privilege under the Act.

Personal.—Dr. Ezra H. Adams, Toronto, has been appointed medical health officer to the American Border District recently created by special act of the Ontario legislature.—— Prof. T. Brailsford Robertson has resigned as head of the department of biochemistry of the University of Toronto. He is returning to the University of Sydney, Australia, his alma mater, where he succeeds his father-in-law as head of the department of physiology.——Major Hutton, R. A. M. C., will soon return to Canada and will accept the appointment of medical officer of health for Brantford.——Col. Francis A. C. Scrimger, V. C., Montreal, was recently given a case of cutlery by the governors of the Royal Victoria Hospital.

GENERAL

Personal.—Charles W. Richardson, Col., M. C., U. S. Army, gave a dinner at his suburban home near Washington, D. C., June 20, in honor of the British and French delegates to the American Medical Association.——Richard P. Strong, Col., M. C., U. S. Army, Cambridge, Mass., has been appointed acting director of the bureau of hygiene and public health of the League of Red Cross Societies.

Meeting of Examining and Licensing Boards.—At the twentieth annual meeting of the New England Federation of Examining and Licensing Boards, under the presidency of W. Scott Nay, Underhill, Vt., as the guests of the Rhode Island State Board of Health, in Providence, June 27, the advisability of annual registration of physicians was discussed at length, the consensus of opinion being in favor of the plan. Dr. R. Morton Smith, River Point, was elected president of the federation, and Samuel H. Colwell, Boston, secretary-treasurer.

Surgeons Elect Officers.—At the annual meeting of the American Surgical Association held at Atlantic City, N. J., June 16 to 18, under the presidency of Dr. Lewis S. Pilcher, Brooklyn, the following officers were elected: president, Dr. George E. Brewer, New York; vice presidents, Drs. John Fairbairn Binnie, Kansas City, Mo., and Alexis Carrel, New York; secretary, Dr. John H. Gibbon, Philadelphia; treasurer, Dr. Charles Howard Peck, New York; recorder, John H. Jopson, Philadelphia, and councilor, Dr. Lewis S. Pilcher, Brooklyn. St. Louis was selected as the next place of meeting.

Federation of Labor Supports Scientific Research.—At the recent meeting of the American Federation of Labor, the following resolution was adopted:

Resolved, By the American Federation of Labor in convention assembled that a broad program of scientific and technical research is of major importance to the national welfare and should be fostered in every way by the federal government, and that the activities of the government itself in such research should be adequately and generously supported in order that the work may be greatly strengthened and extended; and the secretary of the federation is instructed to transmit copies of this resolution to the President of the United States, to the president pro tempore of the Senate, and to the speaker of the House of Representatives.

Medical Museum Association Meeting.—The twelfth annual meeting of the American and Canadian sections of the International Association of Medical Museums was held at Atlantic City, June 14, under the presidency of Prof. Oskar Klotz, Pittsburgh, and the following officers were elected: president, Prof. Oskar Klotz, Pittsburgh; vice presidents, Drs. William M. Late Copelin, Philadelphia; Harold E. Robertson, Minneapolis, and Howard T. Karsner, Cleveland; secretary-treasurer, Dr. Maud E. S. Abbott, Montreal (reelected), and assistant secretaries, Louis Gross and E. Shanley, Montreal. A report was presented on the standardization of the American made supply of square glass museum

jars, and symposiums on war museums and influenza and pneumonia followed.

Red Cross Items.—Lieuts. Jack Butterfield, Evanston, Ill., W. A. Fox, Buffalo, and Major E. A. Fish, Minneapolis, members of the Ambulance Section, American Red Cross, in France, have been decorated with the Croix de Guerre for bravery under fire.——Miss Alice Fitzgerald, formerly of New York and Boston, has been appointed chief nurse of the American Red Cross Forces overseas.——Shipment to Siberia of ambulance bodies, and surgical supplies valued at $348.850 has been authorized by the Red Cross on recommendation of Major Kendall Emerson, Worcester, Mass., who reported that the commission in Siberia is in urgent need of gauze, nonabsorbent cotton, absorbent cotton and cellu cotton.—— Fifty carloads of surgical dressings have been sent from Red Cross headquarters in Paris to Roumania.

Air Service Officers Organize.—Medical officers of the Air Service, U. S. Army, held a meeting for organization in Atlantic City at the time of the session of the American Medical Association, and organized the Air Service Medical Association of the United States, electing the following officers: president, John O. McReynolds, Col., M. C., U. S. Army, Dallas, Texas; vice presidents, Theodore C. Lyster, Col., M. C., U. S. Army, Rockefeller Institute, New York; Eugene R. Lewis Col., M. C., U. S. Army, Dubuque, Iowa; Isaac H. Jones, Col., M. C., U. S. Army, Philadelphia; William H. Wilmer, Col., M. C., U. S. Army, Washington, D. C., and Albert E. Truby, Col., M. C., U. S. Army, Washington, D. C.; secretary, John P. Gallagher, Maior M. C., U. S. Army, Philadelphia; treasurer, Robert S McCombs, Major, M. C., U. S. Army, Philadelphia, and historian, E. C. Schneider, Major, M. C., U. S. Army, Mineola, L. I., N. Y.

Bequests and Donations.—The following bequests and donations have recently been announced:

Medical Department of the University of Louisville, Ky., $5,000, payable at the rate of $500 annually, for the equipment of a research laboratory at the hospital, a donation by a member of the medical faculty.

Washington University School of Medicine, St. Louis, a grant of $5,000 for investigation of hypertrichiasis, from an anonymous donor. The committee in charge of the grant consists of Dr. G. Canby Robinson, dean, Dr. Martin F. Engman of the department of dermatology, and Dr. Charles H. Danforth, of the department of anatomy.

Federation of Jewish Charities and Pennsylvania Hospital, Philadelphia, each $1,000 by the will of Rose Strauss.

Bryn Mawr, Pa., Hospital, $5,000 by the will of Mrs. Emma C. A. Simpson, Philadelphia.

Jewish Hospital, Philadelphia, an income of an estate of $30,000 for the maintenance of three beds, by the will of Moses J. Blitz.

Abbington, Pa., Memorial Hospital more than $7,000, the proceeds of a Rainbow fete held recently at the Huntington Valley Country Club.

Harvard University $100,000 for the study of methods to reform and cure criminals and mental defectives by surgery, by the will of J. Ewing Mears.

Army Medical Museum Wishes Material for Study of Pathology of Toxic Gases.—The acute lesions caused by the toxic gases used in the late war have been exhaustively studied, both in man and in animals. Very little definite information is available in regard to the permanent changes caused in the respiratory tract and elsewhere, and this can only be obtained by the study of cases dying either as a late result of the gassing or from some incidental disease. The Surgeon-General requests the cooperation of pathologists in civilian hospitals, who may have occasion to perform necropsies on discharged soldiers giving a definite history of previous gassing. Protocols, clinical histories, gross and microscopic tissues will be gratefully received. Blocks should be taken from trachea, large bronchi, and other portions of the respiratory tract; from all scarred and pigmented skin lesions; and from all the principal viscera. Fixation in Zenker's without acetic acid or in neutral formalin is preferred. The material will be used in the comprehensive study of the "Pathology of the Toxic Gases" which is now under way. Due acknowledgment will be made as to the source of the material, which should be addressed to the Army Medical Museum, Washington, D. C.

Bills for a National Department of Health.—Two bills have been introduced in Congress providing for a national department of health. S. 814, introduced by Senator Owen, closely resembles the last "Owen bill." It provides for a department and a secretary of health; for an assistant known as the commissioner of health, both to be appointed by the President; for the transfer to the Department of Health of the Public Health Service from the Treasury Department; the Bureau of Chemistry from the Department of Agriculture so far as it is charged with the investigation of adulteration and the enforcement of the pure food law; and of the Division of Vital Statistics of the Bureau of the Census from the Department of Commerce. The President is also authorized to transfer by executive order any bureau, division or branch of the government engaged in public health work except the Medical Department of the Army and the Bureau of Medicine and Surgery of the Navy. The following bureaus are provided: Sanitary Research, Child Hygiene, Vital Statistics, Foods and Drugs, Quarantine, Sanitary Engineering, Government Hospitals, Personnel and Accounts. An advisory board of seven expert consultants and an official conference of state and territorial health authorities are also authorized. H. R. 5724, introduced by Mr. MacDuffie of Alabama, is similar to S. 814 in its general provisions. It does not specify the bureaus that are to be transferred but leaves this subject to executive order. Instead of a general appropriation, section 10 of this bill appropriates ten million dollars annually; one million for cooperation with the states in establishing a homogeneous sytem of health administration and for the organization of permanent health agencies in each county; two million for cooperation with the states in sanitation, each state to be allotted an amount proportionate to its area and population; five million for cooperation with the states in control of communicable diseases, and two million for scientific study of the causes and nature of transmission of disease, laboratory research and other investigations. S. 814 has been referred to the Senate Committee on Public Health and National Quarantine, H. R. 5724 to the Committee on Interstate and Foreign Commerce.

National Information Bureau to Pass on Charities.—An organization intended to become the national center of all responsible charities; to cooperate with and, in some sense, to direct them, and to protect the public from imposition has been evolved from the National Investigation Bureau, organized during the war to obtain information regarding war charities. It is called the National Information Bureau, and its aims are to assist in the conservation and proper distribution of the charitable resources of the country and to serve as an endorsement agency for philanthropic organizations, as well as to protect the giving public. Part of its work will be to adapt the programs of the separate organizations to each other and to the communities in which they are engaged, in order to promote the highest efficiency and avoid duplication of effort.

To receive the endorsement of the national agency, charitable organizations must conform to rather rigid standards which it sets up. The agency will be composed of social workers representing the organizations which meet the standards, some of which are:

There must be

1. An active and responsible governing body holding regular meetings, or other satisfactory form of administrative control.
2. A necessary purpose with no avoidable duplication of the work of another efficiently managed organization.
3. Complete annual audited accounts prepared by a certified public accountant, showing receipts and disbursements classified and itemized in detail.
4. No solicitors on commission or other commission methods of raising money.
5. Ethical methods of publicity, promotion and solicitation of funds.

There are five other similar standards and additional ones are being devised.

Allen T. Burns, New York, secretary, and Barry C. Smith, New York, director. Gustavus D. Pope, Detroit, has been chosen president. Among the social agencies represented in the organization are: American Red Cross, War Camp Community Service, American Civic Association, National Child Welfare Association, The Charity Organization Society of New York, National Tuberculosis Association, American Social Hygiene Association, New York School of Social Work, National Child Labor Committee, National Association for the Advancement of Colored People, American Society for the Control of Cancer, Cincinnati Council of Social Agencies, Detroit Patriotic Fund, National Municipal League, Cleveland War Council, American Association for Organizing Family Social Work, and the Young Men's Christian Association.

Appropriations for the U. S. Public Health Service.—The Public Health Service has been granted the following appropriations in the Sundry Civil Bill which has passed Congress: for pay, allowance and quarters of commissioned medical officers, $850,000; for pay of noncommissioned medical officers, $300,000; for pay of all other employees, $700,000; for traveling expenses of officers officially detailed to attend meetings

to promote public health, $40,000; for light, fuel and water, $125,000; for furniture and repairs, $8,000; for medical and hospital supplies, $85,000; for maintaining the Hygienic Laboratory, $27,000; for the maintenance of Marine hospitals, $625,000; for medical examination of all persons so entitled, $220,000; for shipment of bodies $5,000; for scientific books, $500; for medical, surgical and hospital services for all persons entitled to treatment under the provisions of the War Risk Insurance Act, $4,000,000; for the maintenance of quarantine service, $20,000; for the prevention of epidemics of cholera, typhus fever, yellow fever, smallpox, bubonic plague, Chinese plague, trachoma, influenza or infantile paralysis to be spent in the discretion of the President, in any threatened or actual emergency, $400,000; for field investigation of the propagation and spread of disease, $300,000; for interstate quarantine service, $25,000; for special study and demonstration in rural sanitation, $50,000; for special study in pellagra, $30,000; to regulate the sale of biologic products, $35,000; for the maintenance of the bureau of venereal disease, $200,000; for the improvement of the Hygienic Laboratory, $20,000. Regarding the consolidation of the public health bureaus of the government the bill, as finally enacted, contained the following provision: "The heads of the several executive departments and other government establishments are authorized and directed to submit to Congress not later than the first Monday in December, 1919, a statement showing for the fiscal year of 1919 the activities of their respective establishments pertaining to the public health and the amount expended on account of each of the said activities." This language was agreed to after much discussion and is believed to be the first step on the part of Congress toward the eventual establishment of a department of health of the federal government similar in scope to the other executive bureaus of the government. Improvements for Marine hospitals are included, as follows: at Chicago, $121,000; at Cincinnati, $10,000; at Mobile, Ala., $60,000; at Savannah, Ga., $10,000. The medical department of the Army was granted the following appropriations: for artificial limbs, $50,000; for appliances for disabled soldiers not entitled to artificial limbs or trusses, $1,000; for trusses for disabled soldiers, $1,500; for improvement of the Providence Hospital, Washington, D. C., $2,000. An effort on the part of the Senate to appropriate about $2,500,000 for use by the Interdepartmental Hygiene Board to protect citizens against venereal disease failed. The money appropriated at the last session of Congress for this and which remains unexpended was reappropriated for this purpose.

The Physician Under Prohibition.—The inauguration of prohibition throughout the United States affects the physician not only as a citizen, but also as a professional man. Necessarily, the law provides some exceptions, in the use of alcohol and various liquors containing alcohol for medicinal purposes. In a circular of instruction to internal revenue collectors and agents the Commissioner of Internal Revenue states that Section 1 of the Act of Nov. 21, 1918 (War Prohibition Law), provides that after June 30, 1919, until demobilization is proclaimed by the President, no distilled spirits, beer, wine or other intoxicating or vinous liquors shall be sold for beverage purposes. It also provides that the commissioner shall prescribe regulations for the sale of distilled spirits for sacramental, medicinal and other than beverage purposes. The commissioner directs that physicians may prescribe wines and liquors for internal use or alcohol for external use as stated last week. Such prescriptions must be in duplicate, both copies signed in the physician's handwriting. Not more than 1 quart of any liquor may be prescribed for a single patient at a given time and in no case shall a physician prescribe alcoholic liquor unless the patient is under his constant personal supervision. Prescriptions must show the name and address of the patient, including the street or apartment number, if any, the date when the prescription was written, the condition or illness for which prescribed and the name of the pharmacist to whom the prescription is to be presented for filling. Physicians should note carefully this provision: The prescription must designate a certain pharmacist and no other pharmacist can fill the prescription than the one designated. The physician must keep a record in which a separate page is allotted to each patient for whom alcoholic liquors are prescribed and must enter thereon, under the patient's name and address, the date of each prescription, the amount and kind of liquors dispensed by such prescription and the name of the pharmacist filling it. Licensed pharmacists or druggists may fill such prescriptions, provided the druggist's name appears on the prescription in the physician's handwriting and provided the druggist has received a permit (Form 737), and provided he has qualified as a retail liquor dealer by the payment of a special tax. No prescriptions for alcohol or alcoholic liquors may be refilled. Druggists filling such prescriptions must preserve, in a separate file, one copy of each prescription filled and once a month must send to the collector of internal revenue in the district in which they are located a list showing the names of physicians prescribing alcohol or alcoholic liquors, the names of the patients and the total quality dispensed to each patient during the month. If these reports show that a physician is prescribing more than normal quantity or that any patient, through the prescriptions of one or more physicians, is procuring more than the normal quantity, the facts shall be reported to the Commissioner of Internal Revenue and the United States Attorney. Pharmacists are instructed to refuse to fill prescriptions if they have reason to believe that physicians are dispensing for other than strictly legitimate medicinal uses or that a patient is securing, through one or more physicians, quantities in excess of the amount required for legitimate purposes. If the prescription is medicated or denatured so as to be unfit for internal use, nonbeverage alcohol tax paid at the rate of $2.20 per gallon may be used in filling the prescription, but if it is not so medicated or denatured, liquor tax paid at the rate of $6.40 per gallon must be used. Physicians preparing or dispensing their own medicines or desiring alcohol for strictly scientific and medicinal purposes must file an application for a permit with the collector of internal revenue of the district in which they live. This application must be accompanied by a bond furnished by a surety company or signed by two individuals as sureties. Both the application and the bond must be in duplicate. On receipt of the application and bond, the collector of internal revenue will issue a permit to the physician authorizing him to have on hand or in transit a certain amount of alcohol or alcoholic liquors, the amount depending on the size of the bond. A bond for $100 allows the physician to have on hand or in transit 20 gallons of alcohol or liquors. The physician must keep an account of all alcohol or alcoholic liquors purchased and on hand and must be ready at any time to produce his records and satisfy the internal revenue inspectors that any amount used has been for legitimate, medicinal, scientific and nonbeverage purposes. Alcohol or alcoholic liquors purchased by a physician under these circumstances cannot be used for his own consumption. The instructions of the Commissioner of Internal Revenue to all government officers is that the law and the regulations regarding alcohol and alcoholic beverages must be strictly enforced. Physicians should familiarize themselves with the instructions under the law and should carefully and rigidly comply with all requirements. In case of doubt, it is best to secure a ruling or an opinion from the collector of internal revenue rather than to take any risk of violating the law.

FOREIGN

Rabies in Spain.—The *Medicina Ibera* states that an actual epidemic of rabies is prevailing at Seville, and the authorities have started a vigorous campaign against it.

Hospital Train Attacked.—A band of seventy bandits attacked a train, which included American hospital and mail cars, north of Vladivostok, June 11. None of the Americans was injured.

Deaths from Influenza.—According to reports issued by Major Norton Which, sanitary commissioner of India, six million deaths from influenza occurred last year in that country. The deaths from influenza reached a higher proportion in the British troops than in the natives.

Honors for Ruggi.—Prof. G. Ruggi, having reached the age limit of 70 and concluding his forty-fifth year in the chair of surgery at the University of Bologna, has retired. His final lecture is said to have been the scene of an impressive demonstration of affection from his aids and pupils.

Carnegie Medal to Italian Physician.—The *Policlinico* mentions that a Carnegie silver medal for civilian heroism has been conferred on Dr. O. Calamita for his rescue of a soldier from drowning in a canal. He is a member of the medical corps of the army, but the rescue was under circumstances that placed it in the civilian class.

Italian Physician Penalized.—A special *Tribunal militare* has been held at Rome to pass judgment on Dr. Pro who was accused of aiding in the multilation of certain soldiers to escape military duty. The prosecutor asked a sentence of fifteen years in the penitentiary but partial mental unsound-

ness was accepted as extenuating the guilt of Dr. Pro, and the sentence of six years' imprisonment was imposed. The soldiers involved were given sentences of from ten months to three years.

Central Control Office for Drugs, Etc., in France.—Under the auspices of the ministère du Commerce, a national commission has been founded at Paris, avenue Constant-Coquelin 6, to centralize the control of the supplies of drugs, pharmaceuticals and perfumery. This body plans to study the technical and economic aspect, encourage national production, organize missions, give subsidies to laboratories, and found technical institutes. It has been organized for a five-year period, and the *Paris Médical* says that its budget will not be less than 200,000 francs.

Typhus in Italy.—The *Riforma Medica* states that a few foci of typhus developed last April in Tuscany, Veneto and Campania, and vigorous measures have been taken to prevent the spread of the disease to civilians. The Public Health Service has organized a course of graduate lectures on typhus to train physicians to recognize and treat it. The course is in charge of Professor Lustig of the University of Rome, assisted by three physicians from Trieste who have had much experience with typhus in the various Austrian, Russian, Serbian and Roumanian sectors.

Deaths in the Profession Abroad.—Dr. **E. A. Tscherning,** professor of surgery at the University of Copenhagen, aged 67. ——The *Nederlandsch Tijdschrift* mentions the death of Dr. **H. Oppenheim,** professor of neurology at the University of Berlin, aged 61. Also the death of Dr. **Adolph,** professor of obstetrics at the University of Dorpat, Russia, who committed suicide at Königsberg recently.——The *Paris Médical* reports the death of Dr. **Duguey** of Lorient who was at the head of a volunteer French hospital unit that had gone to Roumania. He was killed by the bolsheviki.

Prize Awarded Schiøtz and Holth.—At the recent annual meeting of the Norwegian Association for the Advancement of Science, the Videnskabsselskab, it was announced that the Fridthjof Nansen prize had been awarded conjointly to Professor Schiøtz and Dr. Holth for their work on cataract. In commenting on this, the *Hospitalstidende* expatiates on the importance of the research of these scientists, saying that Schiøtz' tonometer is used now by ophthalmologists almost everywhere for the diagnosis and control of treatment of cataract. Holth also was the first to use the filtering area method, iridocleisis, in treatment of glaucoma.

Prize Awarded in Memory of Bang.—The Glückstadt prize was founded in 1918 for the most important contribution to the medical sciences by some Scandinavian scientists, and more particularly in the line of diabetes mellitus. It was universally recognized that the most suitable recipient for its first award was Prof. Ivar Bang, of the University of Lund, for his research on the micromethod of determination of the sugar content of the blood. He died, however, just before the date of the awarding of the prize. Not willing to give up this tribute to Professor Bang, the committee in charge of the prize offered it to the University of Lund to give to those who stood closest to Professor Bang in his research. The university has therefore divided the prize between Profs. Karl Petrén and Klercker.

Prophylaxis of Venereal Disease in Germany.—The *Nederlandsch Tijdschrift* states that the new German legislation on the prophylaxis of venereal diseases requires the physician to inform the patient or the parent or guardian, if a minor, of the nature and dangers of the transmissible venereal disease which he may discover even when examining or being consulted by the patient for other reasons. A German legal authority is cited to the effect that this is not merely a moral obligation for the physician but he is liable for damages in case the person with the venereal disease is not informed of its dangers and thus omits proper treatment or transmits the disease to others. However, he adds, there is no legal obligation on the physician if there is only presumption of a venereal disease.

Reception to Visiting American Commission at Bordeaux.—The *Journal de Médecine de Bordeaux* reports the reception of the Mission américaine de rapprochement économique, intellectuel et artistique at the Medical Faculty. The rector of the University of Bordeaux presided, and expressed his surprise and gratification to see that so many university professors formed part of a partially commercial commission of the kind. Prof. H. W. Tow of the chair of romance languages at the University of Columbia replied that he had had "among his pupils, at Princeton, President Wilson as well as Baker, the chief of the war department, and Hoover, the present international food commissioner." A *champagne d'honneur* was served, and the party inspected the Colonial Museum, the pride of the Medical Faculty.

Belgian Society for Gynecology and Obstetrics.—After an intermission of nearly five years, the Société belge de gynécologie et d'obstétrique held a meeting recently at Brussels. Professor Keiffer recalled that at the twenty-fifth anniversary meeting of the society, March 7, 1914, a number of honorary members were elected, nineteen from Germany or Austria, and seven corresponding members—all names prominent in gynecology and obstetrics. The society at the recent meeting voted unanimously to drop the German and Austrian members, as also a few Belgian members of the society who have compromised themselves by unjustified relations with the enemy. Professor Keiffer said of the latter: "We will exclude them from our ranks and nail them to the pillory." The officers elected by the society for the coming two years are Dr. M. Brouha, president; Dr. J. Godart, vice president, and Dr. M. Cheval, secretary.

Official Visiting Nurses in Bavaria.—The *Nederlandsch Tijdschrift* describes a system of visiting nurses now installed in twenty districts in Bavaria. The women wear a uniform and are bound to professional secrecy, and travel over their district doing welfare work in general, with supervision over pregnant women, midwives, infants, young children and the tuberculous. They have official authority to enforce their advice and to provide ways and means. They are in touch with physicians, clergymen, teachers and state officials in general, aiming at concerted and official welfare work for the public health. They are paid by the district authorities, through the district health officer, to whom they report. Instead of the families seeking advice for their children, tuberculous, etc., in different quarters, the advice is brought to them and there is official supervision to see that they follow it. Our exchange credits the original description of this innovation to the *Wiener klinische Wochenschrift.*

LATIN AMERICA

Hospital Burns.—June 10, a hospital adjacent to the Peter Second docks, Rio de Janeiro was burned. There were several fatalities.

Yellow Fever Spreads.—Dispatches received from Rio de Janeiro tell of the serious situation as regards yellow fever in the vicinity of Bahia.

Hookworm Disease in Panama.—According to the report of Dr. F. A. Miller, the representative of the Rockefeller Foundation in Panama, since the study and treatment of hookworm disease was begun in that country up to last December, there have been examined 86,525 persons, of whom 68,768 received treatment.

Death of Dr. Zayas.—Dr. Francisco Zayas y Jiménez, one of the most prominent Cuban physicians of last century, died, last May, at his home at El Vedado, Cuba, at the age of 93 years. Dr. Zayas practiced his profession for more than fifty years at Havana. He was a well known writer and a poet of note. He also took an active part in politics, being one of the members of the cabinet which was organized by Spain in the last days of its rule in Cuba. He also devoted much attention to the progress of agriculture, and his studies on tobacco and sugar planting attracted much attention.

University Interchanges.—The *Crónica Médico-Quirúrgica* of Havana for March relates that Dr. Schofield, professor of comparative literature at Harvard University, has been visiting Cuba in the interests of university interchanges of professors and students between Harvard University and the University of Havana. The Cuban educational authority, the secretario de instrucción pública y bellas artes, has accepted the plan and has made arrangements for the proposed interchange of both professors and students. Our exchange adds: "Es de aplaudir esta actitud en pro del intercambio cultural norteamericano con nuestra clase universitaria."

Prize Awarded to Arteaga.—At the recent anniversary meeting of the Academia de Ciencias de la Habana, the Gordon y Acosta prize was awarded to Dr. J. F. Arteaga for his work on the physiology of hunger and thirst. Dr. Arteaga is the editor in chief of the *Revista de Medicina y Cirugia* of Havana. Three prizes are offered for the coming year for the best works on the glands with an internal secretion, a plan for a campaign against malaria in Cuba, and the third prize for any theme the writer may select. The competing works must be unpublished, written in Spanish, English or French, with name in sealed envelop, and they must reach

the secretary of the Academy, calle de Cuba 84 A, before March 31, 1920.

Maternity Prizes in Cuba.—The *Crónica Médico-Quirúrgica* of Havana states that the work initiated by the late Dr. E. Nuñez in providing prizes for motherhood has taken a firm foothold in Cuba. This year forty-one of the total 112 municipalities of the island are now offering prizes of the kind in the campaign for better babies. The movement is widespread through the island, each of the six provinces having a representative proportion of prizes to be awarded. The total amount thus available in the different towns ranges from $25 to $305, except at Havana where the total of the prizes to be awarded reaches $1,500. In addition to these local prizes, a number are to be awarded by the public health authorities and by private philanthropists.

Personal.—Dr. Justo F. González of Uruguay has just arrived in this country, having been commissioned by his government to study the etiology and serotherapy of influenza and to purchase some apparatus for the disinfection of water and the disinfection of ships. Dr. González expects to visit the cities of New York, Washington, Boston, Philadelphia and Rochester, Minn. Mrs. Gonzáles, who accompanies him, is the president of the National Public Health Association of Uruguay. Dr. de Paolo Sousa, São Paulo, Brazil, professor of hygiene and public health of the University of Brazil, and head of the public health department of São Paulo, arrived in Norfolk, Va., June 22, to make a study of the methods of health departments of American cities.

Monument to Medical Patriots in Colombia.—The *Repertorio de Medicina y Cirugía* of Bogotá publishes a circular inaugurating a movement in favor of a memorial for the members of the profession "who left their homes and practices a hundred years ago to aid in the campaign for the independence of the country, so gloriously won at the battle of Boyacá, the centennial celebration of which is at hand." The circular is signed by the presiding officer of the Academia Nacional de Medicina, of the Facultad de Medicina de Bogotá, the Sociedad de Cirugía de Bogotá, the Club Médico de Bogotá, the Sociedad de Pediatría de Bogotá and the Sociedad de Medicina de Bogotá. There is a general movement throughout the country to honor the memory of the patriots who founded the republic, and the medical profession is planning a monument to be erected in the principal court of the Bogotá Medical School. The circular adds, "The monument will be modest and materially small, but it will be grandiose in the ideas which it incarnates and symbolizes. It is to be constructed with funds contributed by the physicians of Colombia in tribute to the devotion, the self-abnegation and the patriotism of those physicians who gave their science and best services to maintain the health of the troops who fought on the glorious fields of Boyacá, Carabobo and a thousand others, establishing the independence of the five Bolivian republics."

LONDON LETTER

LONDON, June 18, 1919.

British-American Discussion on Pediatrics

The presence of a large number of medical officers from the United States and the British dominions in this country has been turned to account by holding various conferences in which these countries have been represented. The latest is an informal conference on pediatrics held by the Local Government Board and presided over by the chief medical officer, Sir George Newman. The members of the conference consisted entirely of experts: Col. J. G. Adami, F.R.S., F.R.C.P. (professor of pathology, McGill University, Montreal); Capt. Richard A. Bolt (chief, Bureau of Child Hygiene, Cleveland); Hector C. Cameron (physician in charge of the Children's Department, Guy's Hospital); Miss Janet Mary Campbell, M.D., M.S. (medical officer in charge of maternity and child welfare, Local Government Board); John S. Fairbairn (obstetric physician to St. Thomas' Hospital and General Lying-In Hospital; lecturer in midwifery and diseases of women, St. Thomas' Hospital Medical School); Eardley Holland (assistant obstetric physician to the London Hospital); F. Truby King (general President, Royal New Zealand Society for the Health of Women and Children); Miss Janet E. Lane-Claypon (dean and lecturer in hygiene, Household and Social Science Department, King's College for Women, London); G. F. C. Pritchard (physician, Queen's Hospital for Children; physician, City of London Hospital for Diseases of the Chest); W. R. Ramsey (associate professor of diseases of children, University of Minnesota Medical School); Lieut.-Col. G. S. Strathy (assistant physician, Hospital for Sick Children, Toronto), and S. W. Wheaton (assistant medical officer, Local Government Board).

Prof. W. R. Ramsey said that since there had been a special department of pediatrics at the University of Minnesota Medical School, progress had been rapid. Intensive teaching of pediatrics in close cooperation with obstetrics was necessary and was there carried out. The average physician approached the child from the pathologic standpoint. He was interested whether the child had pneumonia, a dilated heart, a big liver, or some other abnormal condition. But the normal infant was the most important thing to teach the student. The welfare of the race depended fundamentally on prenatal care, breast feeding, and the technic brought to bear in the first years of life. Nothing in the whole field of medicine required more judgment, more experience, and a more thorough analysis than the feeding of infants. A few years ago they had got down in America to such a position that probably not more than 30 or 40 per cent. of the women were nursing their children. Now the percentage was between 75 and 80. The improvement was brought about by propaganda and the proper education of the physician and nurse. But a great deal more remained to be done. The average physician of today thought that the baby must be bathed immediately after birth. The result was exposure for half an hour or more in a room of low temperature, with many deaths as the result of loss of heat. It was a common practice to wash or swab out the baby's mouth daily, producing stomatitis. The epithelium was brushed off and thrush followed. A large percentage of the dyspepsia in young infants was due to the classic dose of castor oil on the third day. He advocated four-hourly feeding and only five feedings in the twenty-four hours. This gave much better results than more frequent feeding. The frequent feeding of young babies and the waking of the mothers at night was the reason a great many infants were not breast fed; the mother became nervous, lost her sleep, and her milk gradually disappeared. At Minnesota they found that Rubner's and Heubner's allowance of 100 calories per kilogram was not applicable to the first two weeks. Infants gained most satisfactorily on from 45 to 70 calories per kilogram.

Dr. Truby King said that the common mistake was irregularity and undue frequency in feeding. The main damage to the baby often originated in the first fortnight in life. He agreed with Dr. Ramsey's conclusion that the average quantity of mother's milk on which the baby thrived at 10 days of age was only about 13 ounces and not the German standard of 18 ounces so largely followed. The former figure was also arrived at in Paris by Professor Marfan.

Dr. H. C. Cameron said that the curriculum of the medical student was overcrowded, but that three months' study should be given to pediatrics, which was not a narrow speciality but formed the formation of almost all that the student learned elsewhere. Too much time was given to the study of anatomy, which was soon forgotten, and to surgical procedures which were really objects for postgraduate study and were a narrow specialty. Few students—only the best with the keenest intellects—threw themselves heart and soul into the study of the individual child. It was much easier for the student to be keen on the removal of adenoids than to understand how they came and could be prevented.

The conference unanimously adopted these conclusions: 1. Every effort should be made to impress on the whole community the supreme importance of breast-feeding, for the sake of both mother and child; at present overfeeding of the baby, especially in the first fortnight of life, is one of the commonest and most serious mistakes of nursing mothers, often upsetting the child and leading to the early abandonment of suckling. 2. This tendency can be best counteracted by a general recognition of the benefit of greater regularity and lessened frequency of feeding than is customary. 3. With very few exceptions, nursing only every four hours from birth is best for mother and child, though in a few cases more frequent feeding may be desirable. 4. In general, there should be an interval of seven or eight hours between the last feeding at night and the first feeding in the morning. 5. Every medical student preparing for a registrable qualification shall receive adequate teaching in the subjects of infancy and childhood in health and disease; attendance in a department where instruction is given in these subjects should be compulsory for a period of not less than three months; some special part of the final examination in medicine should be devoted to these subjects. 6. So far as practicable, this study shall follow on, and be coordinated with, a satisfactory course in obstetrics and gynecology, and should

be made available for postgraduate students; the present training in obstetrics leaves much to be desired, especially in regard to the lack of facilities for bedside teaching in midwifery. 7. Great advantage would result from a larger measure of uniformity in the advice given by public authorities and others in respect of maternity, infant and child welfare. The only way in which this can be secured is by obtaining a written statement from a body of experts. 8. Both practical and theoretical instruction in infant hygiene should form a part of the training of midwives and of all persons engaged by public authorities in infant welfare work. 9. Maternity nursing should be undertaken only by competent and adequately trained persons, preferably by qualified midwives.

Infant Mortality and Fresh Air

At the National Birth Rate Commission, Prof. Leonard Hill gave evidence which consisted largely in the application of his well known views on ventilation and fresh air to infant mortality. He said that the high mortality of children was due to excess of respiratory and alimentary diseases, particularly of the latter. The cooling and evaporating powers of the air were closely connected with the causes of high infant mortality, these acting both on the skin and on the respiratory membrane. Cool morning air was the natural stimulus to activity and appetite, to deep breathing, active circulation, thorough oxygenation, and good digestion. Physiologic research had proved that, apart from the spread of infection by "carriers," it was not the chemical impurity, but the physical conditions of close air which made for discomfort and impoverished health. It was not excess of carbon dioxid, or lack of oxygen, or organic impurities which affected people in a crowded room, but the heat and moisture of the air. The cooling and evaporative powers in rooms commonly approximated to those in tropical humid climates, so admittedly enervating to man. This was due chiefly to the stillness of the atmosphere. Exposure to wind had a most potent influence on the cooling and evaporative powers. Open-air workers and agriculturists, fishermen, and the like, were exposed to a greater cooling and evaporative power than citizens who dwelt in tenements, traveled in crowded conveyances, worked in schoolrooms or factories, ate in canteens, and sought amusement in cinemas. It was the lack of windage which largely explained the correlation between density of population and high morbidity and mortality. The tenement baby, overclothed and confined indoors by the mother—for fear of its catching cold and to save trouble under the difficulties of tenement life—died from digestive, nutritive and respiratory troubles, brought on largely by lack of adequate cooling and evaporative powers of air. It was surrounded with a tropical, still, humid atmosphere.

The depression of metabolism and the want of fresh natural foods, grass-fed milk and butter, succulent fresh young garden produce, alike resulted from the present city conditions, and these together were the causes of "deficiency" diseases, such as scurvy and rickets, with the decay of teeth, and an enormous amount of ill health, which was not actually identified as disease. Garden cities should be built and big towns not added to. The government should choose new sites with beautiful surroundings and with all the conditions that favor a happy and healthy life. The whole question should be gone into as boldly and as thoroughly as the war had been faced. That was the only way to get better conditions, and it was the one way to escape the perils which had overtaken Russia. An immediate and pressing demand should be made for garden cities and the bringing up of the young in the discipline of taking pride in and keeping perfect bodily health. The present system of national education weakened the vigor and lessened the happiness of the nation. All children should receive the education that public school boys obtain on the playing field.

The Chronicity of Dysentery Infection

An important investigation of chronicity in dysentery carriers has been made for the Medical Research Committee by Capt. W. Fletcher and Dr. Doris Mackinnon. Advantage has been taken of the large number of cases in soldiers returning from foreign service suffering or convalescent from the disease who have been collected together in special hospitals. In regard to amebic dysentery the well known chronicity was confirmed by cases which date back fifteen or twenty years. But it is with regard to bacillary dysentery, the chronicity of which has been little recognized, that the research is more important. During the examination of 1,782 men convalescent from dysentery, seventy-four bacillus carriers and 122 carriers of *Endameba histolytica* were found. Further, forty-two convalescents whose examinations proved negative showed a history of chronic disease (diarrhea, and melena from time to time) similar to that obtaining among those with positive examinations. An important clinical differentiation between the carriers of the Flexner and Shiga bacilli was established. "The average Flexner carrier is in good health; his stools are formed and free from blood and mucus if his intestine has not been damaged by inflammation due to amebas or some other cause. He is fit to carry on his work unless he is subjected to very adverse conditions of feeding, temperature or labor, which may induce attacks of diarrhea. The Shiga carrier, on the other hand, is generally an invalid; his stools usually contain blood and mucus, and he has frequent attacks of diarrhea. But this is not all: for in addition to his bodily ailments he often becomes a mental wreck. The weakening effect of the constant diarrhea, the straining and tenesmus, the dragging sensation in the abdomen, the concentration of the attention on the presence or absence of blood and slime in the stools, and the frequent disappointment, due to repeated relapses, tell on the patient's mind and reduce his mental state to one of misery and dejection." Infections with Shiga's bacillus are found to be contracted in the East; are liable to last months or even years, defying every effort at cure, and are prone to relapse on any departure from a quiet semiinvalid life or plain light diet. Cases are quoted giving an estimated duration of infection over periods varying from two to ten years. The intermittence of the Flexner infection, comparatively good health of the subject, and normal appearance of the stools render the carrier a dangerous source of the disease. Captain Fletcher and Dr. Mackinnon recommend that the examination of dysentery convalescents should be carried out in laboratories attached to the hospitals so that the laboratory worker can deal directly with the patient and direct the medical attendant. Chronic Flexner bacillus carriers should be employed for six months in light occupations, not concerned in the handling of food, and then sent to the hospital for two weeks, during which their stools should be examined at least six times. Chronic Shiga bacillus carriers should after discharge from the army be placed under the supervision of the health authorities. A permanent depot should be established for those chronic cases which resist all treatment.

Trade Unionism in the Profession

The fifth annual meeting of the Medicopolitical Union has been held. It was stated that 367 new members have joined during the last month. The report of the general secretary regretted the hostility which had sprung up between the British Medical Association and the union. The report proceeded: "The association had for many years, while decrying trade unionism, been employing trade-union methods with impunity, until the Coventry case (previously reported in The Journal) shattered their claims and left us as the only body adequately equipped to carry on a fight on behalf of the profession. I am pleased to say that the association, or certain of its members, recognize facts, and an attempt is now being made to reconcile differences." As to the formation of a ministry of health, the report stated that it foreshadowed drastic changes in the medical services at an early date. Those changes would benefit neither the community nor the profession, unless the latter had a large voice in shaping them. It was the duty of that union to impress on the government departments the importance of the general practitioner as the backbone in the medical profession, and the fact that he was better equipped to give advice than those occupying a more exalted position.

The Law and Professional Secrecy

In this country the law has never recognized the inviolability of professional secrets in the keeping of the medical profession, as it does on the European continent. Curiously, there is no question as to the inviolability of the secrets of the Roman Catholic confessional. However, the rule on the point is somewhat obscure, and is contested, as the following case shows: A girl was charged with concealment of birth. A physician was called when she was prostrate after she had placed the body of the baby under the mattress. The judge remarked that in his depositions the physician stated that though he knew a child had been born he did not think it his duty to inform the police, as that would have been a breach of professional confidence. The judge remarked that there was no professional confidence in criminal cases, and it was the physician's duty to inform the police. He did not blame the physician for his view, but he thought that he should know that his view was wrong. The physician said that he was informed by the British Medical Association that he was

correct. The judge said that the British Medical Association was wrong. If a patient cut another person's throat it would be his duty to inform the police. There was no difference between these cases.

PARIS LETTER

PARIS, June 20, 1919.

The Compulsory Reporting of Tuberculosis

At the session held, June 3, by the Academy of Medicine, the permanent commission on tuberculosis adopted unanimously the following conclusions in regard to making tuberculosis a reportable disease, in addition to those reported in THE JOURNAL, June 14, 1919, p. 1781: The academy congratulates the government on its intention of giving new impulse to the antituberculosis campaign, which has made so much progress in the last few years. The academy indorses the measures now in force and hopes that they will be multiplied so that they may be extended to the whole country. In the opinion of the academy it seems necessary to coordinate all these measures by placing them under some sort of central office. In order to supplement the means now employed, as represented by dispensaries, sanatoriums, special hospitals and farm colonies, the academy requests that the measures for the conservation of infants now in force in the département of the Seine be extended to the different départements of France. The academy invites the attention of the government to the importance of public health regulations relating to abattoirs, stables and the protection of food against street dust and insects. The conduct of antituberculosis work, and in a general way the enforcement of laws on social hygiene, will require the employment of many physicians with public health training. As the teaching of hygiene is inadequate in France, the academy reiterates the recommendation it made when the question of depopulation was discussed in 1917. It desires the creation of one or more national institutions of public health having for their purpose the promotion of this important science and the formation of sanitarians. In order to hasten the carrying out of the measures for relief and prophylaxis, the academy insists on the importance of encouraging by all means the conduct of antituberculosis work by private initiative, in addition to the measures taken by the different governmental agencies.

Work of a Society for the Assistance of War Cripples

The Aide immédiate aux invalides et reformés de la guerre, the object of which is to insure the permanent care of the war cripples by assisting them by means of reeducation, hospitalization and finding them new positions, has just taken possession of its new offices. On this occasion some inaugural ceremonies took place, presided over by M. Colliard, minister of labor and social prevention, assisted by M. Paul Deschanel, president of the chamber of deputies, who is also honorary president of the above mentioned organization. The latter described the results of the work accomplished by the Aide immédiate, which is at prevent reeducating 1,854 cripples; 1,654 wounded have in addition placed themselves in communication with the association; 9,998 have been assisted; 9,201 have been found employment; 2,992 were referred to the official schools of rehabilitation; 587 tuberculosis cases have been treated at the society sanatorium; 626 families have received some form of permanent assistance; there has been organized a system for placing with families the children of wounded soldiers; in addition there has been formed a club where those rehabilitated can meet together.

At present the Aide immédiate is spending 74,000 francs every month (nearly $15,000); it is training 281 war disabled to whom it is granting an allowance of 5 francs a day; it is caring for thirty tuberculosis patients at its sanatorium; it is distributing each day milk and meat to 528 war disabled; it is giving some form of monthly assistance to 615 cripples and their families, and it is finding employment for more than 300 cripples every month.

The French Hospital at Athens

M. de Billy, the French minister at Athens, presided recently at the inauguration of the French hospital which has been founded by the French government. There were present members of the Greek government, many professors of the university, members of the French military missions and representatives of the Athenian scientific societies. The French minister delivered an address indicating the purpose of the French government in founding the hospital.

Congratulations to the Red Cross

The president of France has just addressed a letter to Mr. H. P. Davison, the chairman of the governing board of the league of societies of the Red Cross in which he says: "At this moment when your persevering efforts have met with success I want to congratulate you. The statutes adopted by the Red Cross League constitute a deserved tribute to the efforts already made by the international council of the Red Cross in the new field of effort where the governing board desires to engage and making the admission into the league of all Red Cross societies depend on the unanimous decision of the board. I have noted this event with interest and I have no doubt that the organization which you have initiated will perform in the future the generous task assumed by it for the benefit of the people."

Attitude of Paris Medical Society

The syndicat médical de Paris, at its general assembly held under the presidency of Dr. Henry Barbier, one of the hospital physicians, adopted three important resolutions: The first pleads for the obligatory presentation of college diplomas before students are allowed to begin medical studies. The second urges that no license be granted to practice medicine in France to foreign physicians, save under exceptional circumstances and only if they have served in the French army during the war. The third resolution protests against the veiled attacks on the medical profession because of the compulsory reporting of tuberculosis: the medical society of Paris asserts its unchangeable opposition in regard to making tuberculosis a reportable disease while the government does not put into effect a program aiming at the limitation of the consumption of liquor, the strict enforcement of the law on drunkenness, the sanitation of insanitary dwellings, the improvement of the services of public health and disinfection, the construction of numerous sanatoriums, and the passage of laws for compulsory insurance against sickness, and declares itself ready to take up actively all measures that will promote the interests of the patients and of the country as a whole.

Franco-American Celebration

An imposing ceremony took place, May 29, at Beaune, at the commencement exercises at the university, in which 10,000 students belonging to the American army have been taking for the last few months courses organized by the staff of the American army. The French government was represented by M. Lafferre, the minister of education, M. Claveille, minister of public works, and M. André Tardieu, high commissioner for French-American war affairs. A large number of French professors and staff officers were also present. At the end of the celebration, M. Lafferre presented a number of Legion of Honor crosses to those Americans who have contributed most to this work of education in the army.

Delegation from English Universities

A delegation from the English universities, which was invited by the national office of the universities of France to visit French universities, arrived, May 30. After being received at the University of Paris, the delegates will leave for an inspection trip of the provincial universities. Some conferences will be held at the office of the university between the English and the French professors in order to reach an agreement as to an exchange of professors and students between the universities of the two countries.

Personal

At one of its last sessions, the Academy of Medicine elected five national corresponding members for the division of surgical pathology and obstetrics. Those elected were Dr. Berard, professor of clinical surgery at the school of medicine of Lyons; Dr. Crivelli of Melbourne; Dr. Fabre, professor of clinical obstetrics at the school of medicine of Lyons; Dr. Sencert, professor of clinical surgery at the school of medicine at Strasbourg, and Dr. Vanverts, associate professor of the school of medicine of Lille.

Surgical Treatment of the Scars from War Wounds

At a recent meeting of the Academy of Medicine, Dr. Walther, hospital surgeon and associate professor at the Faculté de médecine de Paris, contributed an interesting communication on the subject of the surgical treatment of the scars from war wounds. Since the beginning of the war, Dr. Walther was in charge of a service especially equipped for the treatment of scars of the soft parts and of nerve

lesions. Before the society he gave a general survey of the conditions which he thinks should obtain in the operative treatment of scars of the limbs. He first emphasized the importance of preoperative treatment by means of gymnastics and special muscle training, which should always be adapted in accordance with the indications and followed out under the supervision of the surgeon. Certain points of the operative technic were brought out, such as very wide resection without excision of the scars; resection of all the deep scars, including the fibrous clumps which surround the muscles, the nerves and the vessels; together with as complete reparation as possible of the muscles and aponeuroses. He recommends the use, during the whole course of the operation, of a bath of physiologic sodium chlorid solution which prevents the desiccation and alteration of the tissues and through its very powerful hemostatic action facilitates dissection. It is also indicated to proceed, after the operation, to the absolute immobilization of the limb by means of a plaster cast, which should be left in place for at least two weeks, and for four or five weeks when it is a question of repairing the muscles and tendons; nor should a change of dressing be necessary, if the skin sutures have been made with fine catgut. The postoperative treatment by means of gymnastic exercise should be directed and controlled by the surgeon.

The results obtained encourage one to extend the indications for surgical intervention. Walther called attention to the various and numerous troubles which may arise from the presence of deep scars, even though only slightly painful, and to the functional improvement that can be secured even in the case of large scars, with deep and extensive laceration of the tissues, such as are often regarded as inoperable and entail permanent disability. Many men with wounds of long standing are still suffering from disability and from marked functional inferiority who would benefit from surgical intervention. At the present time, the fact that all the auxiliary hospitals were being discontinued made it difficult to provide hospitalization, and the fear was expressed that many wounded men would remain permanently disabled who might otherwise be benefited. It seemed a matter of urgent necessity to organize surgical centers for the treatment of scars, as has been done for the treatment of face wounds, osteitis, pseudarthrosis, etc. Such centers should be provided with all the equipment needed for preoperative and postoperative treatment.

Dr. Babinski, hospital surgeon in Paris, endorsed the observations made by Walther. Some patients with deep scars were regarded as neuropaths, psychopaths or malingerers and sent as such to the neurologic service; whereas the resection of deep scars has always been followed by the cure, or at least the improvement, of such patients.

Drs. Schwartz and Tuffier, associate professors at the Faculté de médecine de Paris, likewise emphasized the necessity of establishing special centers for men with vicious scars who are in need of operative treatment. Such centers should admit not only the wounded who are still in the service but also those who have been discharged.

A Maternity Dispensary and a Children's Hospital

At one of the recent meetings of the Pediatric Society, Dr. Ramsay, of the University of Minnesota, gave an account of the work done at Rouen and in the department of the Seine-Inférieure by the American Red Cross in collaboration with the prefect of the department.

Dr. Ramsay expressed his opinion to the effect that in each department there should be a central bureau, directed by the state, whose duty it should be to coordinate all welfare endeavors, both public and private. This bureau, which should be at the same time a social center from the standpoint of propaganda and organization, would comprise a dispensary type, a nursery, a children's hospital, etc. It would be directed by a medical committee at the head of which would be the medical director of the bureau of hygiene, who would be assisted by pediatricians and obstetricians. An important rôle would devolve on the visiting nurses, aided by the attending nurses and such as have made a specialty of infant hygiene.

A central dispensary conceived according to this plan is in operation at Rouen, with annexes at Dieppe and at Elbeuf. These dispensaries at present are receiving financial aid from the department authorities, who are desirous of continuing the work undertaken by the American Red Cross.

Concessions to Medical Students

In order that students of medicine and pharmacy belonging to combat units may benefit by the measures that have been taken in favor of their comrades in the medical department of the army, as regards permission to continue their studies, the minister of war has just issued an order in accordance with which all students of medicine and pharmacy (with the exception of certain classes actively engaged) who are at the present time mobilized in combat units, who are holders of the P. C. N. diploma (that is to say, who have had one year's training in the premedical subjects of physics, chemistry and general science) and are entitled to two credits in medicine shall be allowed to return to their colleges or universities, July 15, 1919, to complete their studies.

Statistics of Charitable Work

The Office central des oeuvres de bienfaisance recently held its general meeting under the chairmanship of M. Vallery-Radot, president of the administrative council. In the last quarter of a century, the organization has ministered, in one form and another, to the wants of 1,123,932 people. It has distributed either directly or through other organizations the sum of $3,327,329. Sums that have been recently available have amounted to $520,000.

Closing of the Franco-Uruguayan Hospital

June 11, the ceremonies in connection with the closing of the Franco-Uruguayan hospital were held in Paris. This hospital was founded and directed by Mme. Gaston Thomson. Dr. Louis Mourier, undersecretary of state for the medical department of the army, presided at the ceremonies, and after thanking Mme. Gaston Thomson and her co-workers for their indefatigable devotion, he presented the insignia of an officer of the Legion of Honor to Dr. Blanco Acevedo, chief surgeon of the hospital.

It may be well to add that this hospital will not actually cease to exist, for all the equipment is to be transported to South America, where it will serve to found a French hospital at Montevideo, which will be under the direction of Dr. Blanco Acevedo.

Decoration of a Nurse with the Legion of Honor

Mme. Guérin de Belleit, a nurse, has just received the cross of an officer of the Legion of Honor with the following citation:

Mme. Guérin, an army nurse of the highest moral worth, since the beginning of the war, has given proof of the most admirable devotion. She was wounded by a shell fragment, March 20, 1918, at the field hospital of Châlons-sur-Vesles; a second time by an aerial bomb, June 2, 1918, at Coulommiers; also gassed, May 28 and 29, during the bombardment of Gueux. Furthermore, she offered herself as a donor of blood for a transfusion. She has already been cited in an army order.

Cultivation and Preparation of Medicinal Plants

In April, 1918, there was created, under the ministry of commerce, a committee whose duty it should be to organize and intensify in France the cultivation, the harvesting and the preparation of medicinal plants (The Journal, July 13, 1918, p. 136). This committee endeavored to offset, as far as possible, the shortage in France and to supply, with the aid of the resources drawn from the capital, the immediate needs of the French pharmacists. The return to a normal economic state imposes new duties on the committee. It now proposes, in particular, to direct its efforts toward the cultivation and harvesting of plants that are valuable to the perfume industry on account of their essential oils. It desires, at the same time, to study ways and means of reestablishing in France the drug market which the central empires had monopolized. It will also endeavor to develop in our colonial domain the cultivation of medicinal plants which France is at present obliged to secure from foreign countries.

Personal

Dr. Lapeyre, professor of external pathology at the Ecole préparatoire de médecine et de pharmacie de Tours, has been appointed professor of clinical surgery in the same school. Dr. Tillaye, acting professor of pathology, clinical surgery and clinical obstetrics at the same school, has been appointed professor of external pathology.

Dr. Theodore Tuffier, hospital surgeon and agrégé professor at the Faculté de médecine de Paris, has recently received, in an army order, the following citation:

Dr. Theodore Tuffier, a surgeon of the highest distinction, although not drafted and although exempt from all military obligations, has brought to the army, from October, 1914, up to the last day of the war, the cooperation of his medical skill, especially during the great military operations of Champagne, Verdun, the Somme, Flanders, the Aisne and the Marne.

Marriages

WALTER FRANCIS STILLGER, Capt., M. C., U. S. Army, New York City, on duty with Base Hospital No. 65, Kerhuon, France, to Mlle. Jeanne Bourgeaud of Doulaincourt, Haute Marne, France, May 27.

IRA VERNON GRISSOM, Lillybrook, W. Va., to Miss Amy Eleanor Hines of Princeton, W. Va., June 25.

MATHIAS ALOYSIUS MCGARTY to Miss Mary Germaine O'Connell, both of La Crosse, Wis., June 16.

SARAH ADAMS BOND to Mr. Frederick A. Fraiser, both of Jamaica Plain, Boston, June 20.

JAMES LOUIS RANSOM, Topeka, Kan., to Miss Jennie Roswell of Salina, Kan., June 30.

JAMES E. CALLAWAY to Mrs. Ethel Kalkins, both of Chillicothe, Mo., June 20.

CHARLES SIXTUS REHFELDT to Miss Emma Fehl, both of St. Louis, June 14.

Deaths

Frederick Gillette Harris ⊕ Chicago; University of Illinois, Chicago, 1899; aged 44; died suddenly at his home, July 2, from meningitis. Dr. Harris, who was a native of Chicago, was one of the best known dermatologists of the Northwest. He studied abroad in 1903, 1904, 1907 and 1908, and then became a member of the teaching force of his alma mater, which he served as professor of physical diagnosis, instructor in medicine and associate professor of dermatology until 1912. He was also professor of dermatology and syphilology in the Illinois Post Graduate Medical School and later in the Northwestern University Medical School, Chicago. The latter position he held up to the time of his death.

William Cavan Woolsey ⊕ Brooklyn; College of Physicians and Surgeons in the City of New York, 1898; aged 43; surgeon to St. Christopher's and of Kings County hospitals; adjunct in gynecology in the Polhemus Medical Clinic, and consulting anesthetist to the Bushwick Central Hospital; who was honorably discharged, February 13, as major, M. C., U. S. Army, after service with the American Expeditionary Forces in France; died in his apartments in Brooklyn, June 23, from the effects of a gunshot wound, believed to have been self-inflicted, with suicidal intent.

Sarah Adams Bond Fraiser ⊕ Boston; Woman's Medical College of Pennsylvania, Philadelphia, 1891; aged 60; for many years a member and senior medical officer of the staff of the New England Hospital for Women; president of the New England Women's Medical Society; died at her home in Jamaica Plain, Boston, June 27, from pneumonia.

John Holmes Smith, Baltimore; University of Pennsylvania, Philadelphia, 1880; aged 62; a member of the Medical and Chirurgical Faculty of Maryland; lecturer on clinical surgery and professor of anatomy in the University of Maryland; died at his home, near Kingsville, Baltimore County, June 21, from cerebral hemorrhage.

George Henry Houghton, Albany, N. Y.; Albany (N. Y.) Medical College, 1882; aged 66; a member of the Medical Society of the State of New York; who entered the Champlain Valley Hospital, Plattsburg, N. Y., about five weeks before, to undergo operation; died in that institution, June 15, from carcinoma of the stomach.

James Herman Betz, Jamaica, N. Y.; Pennsylvania Medical College, Philadelphia; aged 63; also a graduate in pharmacy; for twenty-two years an attaché of the New York Department of Health and for a long time chief sanitary inspector of Queen's Borough; died at his home, April 17.

Andrew V. Cherbonnier, Baltimore; Capt., M. C., U. S. Army (retired); aged 92; who was commissioned captain in the Medical Corps, July 28, 1866, and was retired by operation of law, Oct. 12, 1890, on attaining the age of 64 years; died at his home, June 25, from senile debility.

Silas Murray Dinsmoor ⊕ Keene, N. H.; Columbian University, Washington, D. C., 1860; aged 83; a member of the staff of the Elliott City Hospital, Keene, and a member of the local school board for twenty-six years; died at his home, May 14, from middle ear infection.

⊕ Indicates "Fellow" of the American Medical Association.

Charles English Henderson, Easton, Md.; University of Pennsylvania, Philadelphia, 1858; aged 74; who entered the railway service in 1870; serving in various capacities, and was for the last thirty years general manager and receiver of railways; died at his home, April 8.

Robert Meade Smith, Norristown, Pa.; University of Pennsylvania, Philadelphia, 1876; aged 65; formerly an instructor in his alma mater; died at his home, June 22, from the effects of a gunshot wound, self-inflicted, it is believed, while despondent on account of ill health.

William Augustus Seymour, Rosebud, Mont.; Northwestern University Medical School, Chicago, 1910; aged 39; a member of the Montana Medical Association; was accidentally drowned, May 14, at Vananda, Mont., as the result of an automobile accident.

Robert Wood Fort, Atlanta, Ga.; Emory University, Atlanta, 1886; surgeon of U. S. Volunteers during the Spanish-American War, with service in the Philippine Islands; died suddenly in New York City, June 15.

Robert Eliel Chaffin ⊕ Nevada, Iowa; Miami Medical College, Cincinnati, 1893; aged 59; died at his home, May 3, from visceral paralysis following gastro-enterostomy for the relief of hemorrhage from duodenal ulcer.

William Shermon Robinson, Holland, Mo.; Barnes Medical College, St. Louis, 1895; aged 54; a member of the Missouri State Medical Association; died in a hospital near Nashville, Tenn., June 16, from pellagra.

Lionel Maximillian Archambault, Arctic, R. I.; College of Physicians and Surgeons, Baltimore, 1909; aged 32; a member of the Rhode Island Medical Society; died at his former home in Haverhill, Mass., June 5.

Melvin J. Bellinger ⊕ Council Bluffs, Iowa; Drake University, Des Moines, Iowa, 1886; aged 55; died in the Jennie Edmundson Memorial Hospital, Council Bluffs, June 24, from carcinoma of the liver.

Joel V. Bastin, Fillmore, Ind.; Kentucky School of Medicine, Louisville, 1887; aged 60; a member of the Indiana State Medical Association; died at his home, June 23, from pneumonia.

Martha Marill Crofut ⊕ La Grange, Ill., formerly of Denton, Texas; University of Illinois, Chicago, 1907; aged 59; died in the Ravenswood Hospital, Chicago, July 4, from carcinoma.

Maria Morrison Dean ⊕ Helena, Mont.; Boston University, 1883; aged 62; prominent in child welfare activities and the suffrage campaign; died at the home of her sister in Helena, May 23.

John Warren Trimble, Chillicothe, Mo. (license, Missouri, 1883); aged 65; a practitioner since 1872; also a graduate in pharmacy; died at his home, June 6, from carcinoma of the liver.

Thomas Ray Morrison, Churubusco, Ind.; Fort Wayne (Ind.) College of Medicine, 1884; aged 81; a veteran of the Civil War; died at his home, June 21, from uremia.

David S. Speer ⊕ Sourlake, Texas; Northwestern Medical College, St. Joseph, Mo., 1894; aged 57; died in Huntington, Pa., June 19, from cerebral hemorrhage.

Charles Allen Moore, Fremont, Ind.; Medical College of Ohio, Cincinnati, 1900; aged 48; also a pharmacist; died at his home, June 1, from carcinoma.

Joseph Gardner, Bedford, Ind.; University of Louisville, Ky., 1861; aged 86; died at his home, near Bedford, March 3, from senile debility.

Edward McGrath, Peterborough, Ont.; Queens University, Kingston, Ont., 1888; aged 68; died at his home in March from gastric ulcer.

John M. H. Lennon, Kearsarge, N. H.; Tufts Medical School, Boston, 1911; aged 34; died at his home, June 3, from tuberculosis.

T. Preston Wiseman, Santa Ana, Calif.; College of Physicians and Surgeons, Keokuk, Iowa, 1875; aged 74; died at his home, May 5.

William H. Schrader, Chicago; Hahnemann Medical College, Chicago, 1887; aged 61; died at his home, June 23, from heart disease.

Herman Wilkomir Katz, Elizabeth, N. J.; Albany (N. Y.) Medical College, 1897; aged 47; died at his home, June 19.

Annie Davis, Hamilton, Ont.; Trinity University, Toronto, 1902; aged 45; died at her home, March 5, from anemia.

Thomas A. Smith, Marshall, Mo.; Washington University, St. Louis, 1880; aged 60; died at his home, May 20.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

PROTEOGENS OF THE WM. S. MERRELL COMPANY

Report of the Council on Pharmacy and Chemistry

The Council has adopted and authorized publication of the statement which appears below, declaring Proteogen No. 1 (Plantex) for Cancer, Proteogen No. 2 for Rheumatism, Proteogen No. 3 for Tuberculosis, Proteogen No. 4 for Hay Fever and Bronchial Asthma, Proteogen No. 5 for Dermatoses, Proteogen No. 6 for Chlorosis, Proteogen No. 7 for Secondary Anemia, Proteogen No. 8 for Pernicious Anemia, Proteogen No. 9 for Goitre, Proteogen No. 10 for Syphilis, Proteogen No. 11 for Gonorrhea, and Proteogen No. 12 for Influenza and Pneumonia inadmissible to New and Nonofficial Remedies because their composition is secret; because the therapeutic claims made for them are unwarranted; and because the secrecy and complexity of their composition makes the use of these preparations irrational.

The Council took up the consideration of the Merrell Proteogens because of inquiries received, and on January 27 invited the Merrell Company to aid in the proposed investigation by submitting information in regard to the composition of the preparations, submitting the current advertising, and presenting evidence for the claims that were made for the preparations. While the Merrell Company agreed to submit the requested information, this had not been received at the time the report of the referee to whom the products had been assigned (Referee 1), was adopted. This report was sent to the company on April 4. In reply the Merrell Company protested against the conclusions of the report and submitted considerable material in an attempt to support the claims made for the products. This material was examined by the first referee and then transmitted to a second referee (Referee 2) for consideration. The second referee concluded that the matter submitted offered no evidence that would justify the Council in modifying the report first adopted, and hence recommended that its publication be authorized.

In accordance with this recommendation (report of Referee 2), the Council authorized the publication of the reports of both the first and second referees.

W. A. Puckner, Secretary.

Report of First Referee on Proteogens

"Proteogens," according to the William S. Merrell Co., are "Polyvalent Proteins of Non-Toxic Plant Origin." The subject of Proteogens can best be approached by recalling the history of "Autolysin," an alleged remedy for cancer, originated by A. S. Horowitz, Ph.D. This was exploited some years ago, and was finally shown to be worthless. Proteogens are said to be prepared "under the personal supervision of the originator, Dr. A. S. Horowitz." The composition of the different Proteogens is essentially secret. The assertion was made at one time, but is not found in the present advertising matter, that Plantex—now called "Proteogen No. 1"—is similar to Autolysin. Now the Proteogens are said to be "prepared by a special process employing various combinations of plants." Further:

> "The biologic principles present are chlorophyll, chromoplast, lipoids and vitamines; these are ferments or enzymes. The vegetable acids, metalloids and metals present in all plants in colloid form act biochemically. Among the metalloids are hydrogen, carbon, manganese, oxygen, sulphur, phosphorus and chlorine; the heavy metals are iron, potassium, sodium, magnesium and copper. These biochemic principles are always present in plants as colloids."

It is claimed by the Merrell Company that:

> "Proteogens stimulate the cytogenic mechanism to higher activity; therefore, indirectly cleave the invading microorganism and eliminate their special toxins. Proteogens swing the disturbed metabolism back to normal and, by natural processes, build up effective defenses against recurrent bacterial attacks."

Proteogen No. 1 was first introduced as "Plantex," and at that time the Merrell Company referred to a preparation that was the result of "a series of studies" carried out by a "noted biologist" with a view of "evolving a Cancer remedy" that was "to be autolytic in character," and announced:

> "The House of Merrell always interested in the progress of plant therapy, began pharmacological experimentations to reproduce this same substance. The qualitative and quantitative analysis of the substance as used in New York having been published simplified matters. A somewhat similar remedy has now been prepared. It consists of the following substances — Menyanthes trifoliata [Buckbean], Melilotus officinalis [Yellow sweet clover], Mentha crispa [Curled mint], Brassica alba [White mustard], Anemone hepatica [Liver leaf], Viola tricolor [Pansy], Anthemis [Roman chamomile], Fructus colocynthidis [Colocynth], Lignum quassiæ [Quassia] Urtica dioica [Nettle], Radix rhei [Rhubarb root], Hedge hyssop. These substances are in approximately equal proportions with the exception of the mustard which forms 20 per cent. of the mixture, and the colocynth fruit which is 5 per cent."

With respect also to the other Proteogens listed above, study of medical literature revealed no evidence establishing their therapeutic value; in fact, no evidence was found other than that appearing in the advertising matter of the manufacturer. The range of diseases in which Proteogens are recommended is so wide as to make obvious the lack of scientific judgment which characterizes their exploitation. A circular letter, received January, 1919, reminded the physician that about a year ago his attention had been directed to Proteogen No. 1 for cancer, that later developments enabled the firm to recommend for his consideration "a series of Proteogens (Nos. 2 to 9)," and that now "In response to an insistent demand, Dr. A. S. Horowitz has prepared two new Proteogens —No. 10 for Syphilis and No. 11 for Gonorrhea." A postscript to this circular letter announced another preparation, "Proteogen No. 12 for Influenza and Pneumonia," a "development out of the present influenza epidemic," and admitted that "It has not had the clinical experimentation that precedes our introduction of a new product."

The introduction of No. 12 was effected by means of a special bulletin which consists exclusively of clinical reports from seven physicians, all from Chicago save one, and all purporting to show most favorable results from No. 12. They describe cases which any physician with experience with influenza can duplicate without any special treatment.

It is difficult to give serious consideration to a set of alleged remedies when the only evidence is that furnished by the proponents of the alleged remedies. This is particularly true when the alleged remedy does not make a sufficient appeal to one's sense of the rational in therapeutics to lead one to feel justified in asking a trial at the hands of careful clinical observers. Considering the grave nature of the diseases for which Proteogens are recommended, particularly cancer, tuberculosis, and pernicious anemia, the want of a rational basis for the method of treatment and the general tenor of the advertising matter, it appears safe to conclude that these agents do not represent any definite advance in therapeutics.

As the use of preparations, secret in composition, and of no established value, is contrary to rational therapy, it is recommended that the Proteogen preparations be declared in conflict with Rules 1, 6 and 10.

Report of Second Referee Reviewing Manufacturers' Reply

The report declaring the Proteogens of the William S. Merrell Company inadmissible to New and Nonofficial Remedies was adopted by the Council, but before publication it was sent to the Merrell Company for such comments as it might desire to make. In due time the reply of the firm was received. It consisted of two volumes bound in limp morocco, each stamped in gold: "Report Proteogen Therapy Requested by the American Medical Association, 1919; The Wm. S. Merrell Company." The first volume contained 79 pages of typewritten material; the second volume contained 76 pages of typewritten material and a number of advertising booklets put out by the Wm. S. Merrell Company, exploiting the Proteogens.

Among the typewritten material was a 14-page report on "Proteogen Therapy" by its originator, A. S. Horowitz. Following this there are several pages devoted to what is termed

"a short qualitative description of the ingredients of major importance in Proteogens." Then follows a page describing the advertising of Proteogens, and the remainder of the two books is devoted to testimonials, lauding the benefit of Proteogens in diseases such as cancer, tuberculosis, rheumatism, asthma, influenza, enlarged prostate, rheumatic endocarditis, syphilis, eczema, psoriasis, diabetes, secondary anemia, gonococcic infections etc. Finally, there are attached samples of advertising pamphlets.

The dissertation by A. S. Horowitz contains little actual information concerning these substances, but is concerned principally with discussion of foreign proteins, "antiferments," "non-specific proteins," "anti-virolins" and speculations on their hypothetical actions and interactions on each other and on the organs of the body and on bacteria. The report contains many questionable statements.

One finds in this report but few definite statements of facts which are known to be accurate or which could be accepted without question. The qualitative description of the proteins and their components is as vague as the previous discussion. The differentiation between the various Proteogens is extremely indefinite; that for Tuberculosis, No. 3 is described as "polyvalent, non-specific protein which rapidly attacks the acid-fast, encapsulated tubercle bacilli"; Proteogen No. 10 for syphilis is said to be a combination of "non-specific plant proteins and different chemicals which has the power to paralyze and destroy living spirochete." It is stated that Proteogens are scientific preparations based on standard ingredients and that the standardization is more accurate than in serums, vaccines or toxins, etc. The report gives no proof of such statements.

The testimonials that are submitted are typical of "reports" that manufacturers are able to obtain from some physicians, to prove the efficacy of almost any preparation in any disease. Each consists, practically, of the opinion of the individual who has employed the Proteogens or the opinion of the patient who has been treated. Few data are given in these reports from which an impartial conclusion might be drawn. A few of the testimonials presented by the William S. Merrell Company follow. The valuelessness of such material as scientific evidence is obvious:

RHEUMATISM:—*Proteogen No. 2.*—The Doctor has one case being treated with No. 2. She has improved so rapidly she cannot express her pleasure, and will continue for some time on the treatments. She is a patient who was confined during the time she suffered from a rheumatic illness, and it seemed to affect her mental condition. This condition is clearing up also, very much to the pleasure of both patient and doctor.—November 27, 1918.

INFLUENZA:—*Proteogen No. 12.*—First day, temperature 102, gave 1 c.c. Proteogen No. 12; second day, temperature 100, gave 1 c.c. Proteogen No. 12; third day, temperature 98.8, gave 1 c.c. Proteogen No. 12, and then discharged the case as recovered.—October 31, 1918.

ASTHMA:—*Proteogen No. 4.*—Splendid results obtained from a sample of Proteogen No. 4. Three ampoules affected [effected?] complete recovery.—October 9, 1918.

CANCER:—*Proteogen No. 1.*—Mrs. B. pronounced recovered from Cancer by Dr. O. W. A., of Catlin, after having injections of Proteogen No. 1 for some time.—October 4, 1918.

ECZEMA:—*Proteogen No. 5.*—Tried No. 5 on a patient with eczema, and with happy results. Have not done anything for him for about five months—and he is now at his business. Proteogen No. 5 also RELIEVED HIM OF CONSTIPATION AND WHAT HE CLAIMED A TRAUMATIC STRICTURE OF THE LOWER PORTION OF SIGMOID FLEXURE. He is sure pleased and recommending them to his friends. (Proteogens).—February 17, 1919.

SYPHILIS:—*Proteogen No. 10.*—I am getting such excellent results with the No. 10 Proteogen for Syphilis that I am badly in need of more, as I am treating so many cases. Please send me four dozen C. O. D.—October 9, 1918.

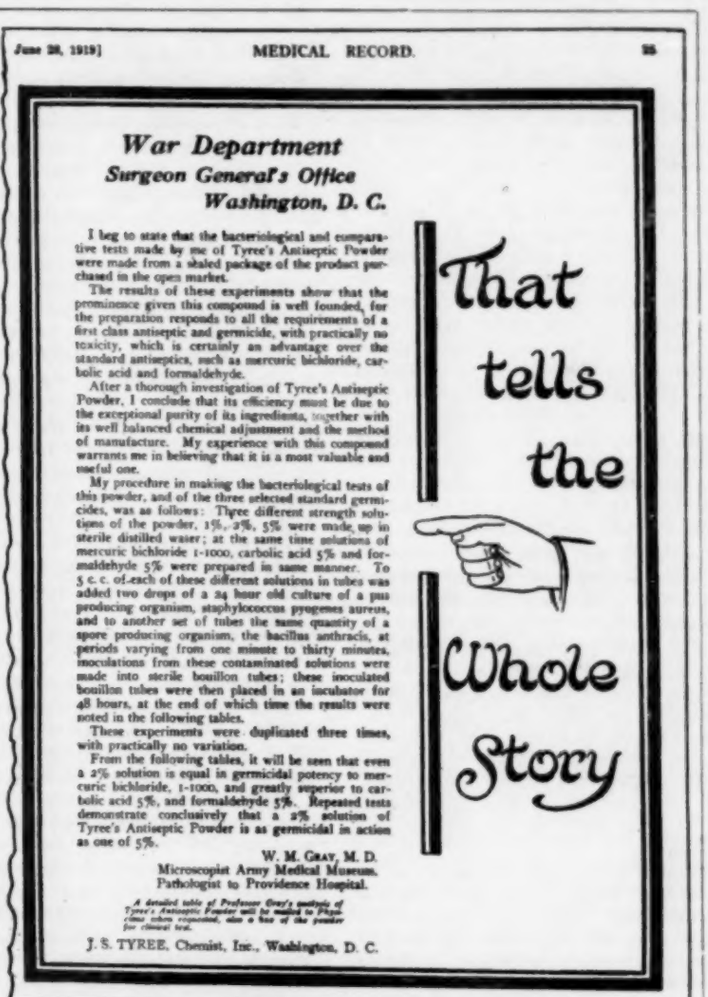
ENLARGED PROSTATE:—*Proteogen No. 1.*—Have used Plantex in enlarged prostate in four cases, with good results in each case. One of them his father, an elderly man.—April 25, 1918.

LOBAR PNEUMONIA:—*Proteogen No. 12.*—The only case I have used Proteogen No. 12, was a man who had Lobar Pneumonia of left lung following Influenza. After crisis came, patient continued to have slight rise in temperature, cough, and after using 10 doses of your Proteogen No. 12, temperature was normal, cough very much better, patient began to take on flesh and is still improving. — December 26, 1918.

TUBERCULOSIS:—*Proteogen No. 3.*—The Doctor writes: The Proteogen No. 3 sent me worked wonders in my patient. The case came under my care when he was too far gone for anything to benefit him a great deal, but the Proteogen did for him more than anyone could have expected, yet he died leaving me with a few ampoules to try on the next patient.—September 20, 1918.

GONORRHEAL CYSTITIS:—*Proteogen No 11.*—My patient has taken two boxes of your Proteogen No. 11 given for gonorrheal cystitis of probably two years' standing and at this writing I consider her almost, if not entirely, cured which I think speaks very highly of your remedy. I expect to use more of your preparations in the future.—April 12, 1919. [This testimonial, either by clerical error, or because the results were considered remarkable, was repeated elsewhere in the material submitted by the Merrell Company.]

ACUTE GONORRHEA:—*Proteogen No. 11.*—Mr. A. E. R., age 65, weight 140 pounds. First attack. Had had no previous treatment. Came to me January 2, 1919. Had discharge, all acute symptoms, burning, etc. Gave seventeen injections of Proteogen No. 11, also mild antiseptic urethral wash. Discharged on February 15, 1919, clinically cured. —April 11, 1919.


June 28, 1919] MEDICAL RECORD. 35

War Department
Surgeon General's Office
Washington, D. C.

I beg to state that the bacteriological and comparative tests made by me of Tyree's Antiseptic Powder were made from a sealed package of the product purchased in the open market.

The results of these experiments show that the prominence given this compound is well founded, for the preparation responds to all the requirements of a first class antiseptic and germicide, with practically no toxicity, which is certainly an advantage over the standard antiseptics, such as mercuric bichloride, carbolic acid and formaldehyde.

After a thorough investigation of Tyree's Antiseptic Powder, I conclude that its efficiency must be due to the exceptional purity of its ingredients, together with its well balanced chemical adjustment and the method of manufacture. My experience with this compound warrants me in believing that it is a most valuable and useful one.

My procedure in making the bacteriological tests of this powder, and of the three selected standard germicides, was as follows: Three different strength solutions of the powder, 1%, 2%, 5% were made up in sterile distilled water; at the same time solutions of mercuric bichloride 1-1000, carbolic acid 5% and formaldehyde 5% were prepared in same manner. To 5 c. c. of each of these different solutions in tubes was added two drops of a 24 hour old culture of a pus producing organism, staphylococcus pyogenes aureus, and to another set of tubes the same quantity of a spore producing organism, the bacillus anthracis, at periods varying from one minute to thirty minutes, inoculations from these contaminated solutions were made into sterile bouillon tubes; these inoculated bouillon tubes were then placed in an incubator for 48 hours, at the end of which time the results were noted in the following tables.

These experiments were duplicated three times, with practically no variation.

From the following tables, it will be seen that even a 2% solution is equal in germicidal potency to mercuric bichloride, 1-1000, and greatly superior to carbolic acid 5%, and formaldehyde 5%. Repeated tests demonstrate conclusively that a 2% solution of Tyree's Antiseptic Powder is as germicidal in action as one of 5%.

W. M. GRAY, M. D.
Microscopist Army Medical Museum.
Pathologist to Providence Hospital.

A detailed table of Professor Gray's analysis of Tyree's Antiseptic Powder will be mailed to Physicians when requested, also a box of the powder for clinical test.

J. S. TYREE, Chemist, Inc., Washington, D. C.

That tells the Whole Story

Above is a greatly reduced photographic reproduction of a full page advertisement of Tyree's Antiseptic Powder. It has been appearing for some weeks in the New York *Medical Record*. Every person who sees this advertisement and is not familiar with the facts, must naturally suppose that the report of Dr. W. M. Gray, made on the stationery of the Surgeon-General's Office, War Department, is a recent report, dealing with Tyree's Antiseptic Powder. As a matter of fact, the report was issued January 3, 1890, nearly thirty years ago and Dr. Gray, who made it, has been dead several years. Furthermore, the product that Dr. Gray analyzed *was a different substance from the present* Tyree's Antiseptic Powder. All these facts were brought out in THE JOURNAL A. M. A., May 17, 1919, yet the *Medical Record* persists in publishing this advertisement without explanations or apology. "That Tells the Whole Story."

EPITHELIOMA OF BUTTOCK:—*Proteogen No. 1.*—I used Proteogen No. 1 on an epithelioma of buttock some six months ago with favorable results and no return of symptoms as yet.—April 13, 1919.

It is obvious that the Proteogen preparations are in conflict with Rules 1, 6 and 10, and should not be admitted to "New and Nonofficial Remedies." It is recommended that the previous action of the Council be allowed to stand and that publication of both reports be authorized.

Correspondence

"THE ADMINISTRATION OF ARSPHENAMIN"

To the Editor:—Several criticisms of my letter (THE JOURNAL, May 10, p. 1386) on the administration of arsphenamin have appeared and seem to demand the following comments:

Dr. Goldenberg (THE JOURNAL, May 31, p. 1634) uses only 20 c.c. of distilled water for 0.1 gm. of drug, two thirds of the amount for dilution that was suggested in my letter, and employs about half of the time I mentioned. Dr. Pusey (THE JOURNAL, June 14, p. 1786) approves from 20 to 25 c.c. per decigram, and Dr. Nelken (THE JOURNAL, June 7, p. 1695) uses a solution as concentrated as 0.6 gm. of the drug in 20 c.c. of water, and gives the dose in from 20 to 30 seconds.

No one knows how far concentration of drug and rapidity of administration may be carried without undue risk to the patient, and it is possible that the limits Dr. Goldenberg and Dr. Pusey set may be sufficient; though what is to be gained by using the 25 c.c. per 0.1 gm. mentioned by Dr. Pusey, or even the 20 c.c. mentioned by Dr. Goldenberg instead of the 30 c.c. mentioned by myself is not clear, as the difference is relatively small. The drug as used by Dr. Nelken is six times as concentrated as that employed by Dr. Goldenberg, and nine times as concentrated as that noted in my letter, and he gives it about twelve times as rapidly as does Dr. Goldenberg, and twenty-four times as rapidly as indicated in my letter. I suspect that if Dr. Nelken found himself facing responsibility for unfavorable results, following the use of arsphenamin given in the way he advocates, he would get little more comfort from the evidence that Dr. Goldenberg or Dr. Pusey has contributed than from my own.

Perhaps Dr. Goldenberg or Dr. Pusey could suggest what they consider the safe minimum of dilution, which presumably lies between the amounts of fluid they use and that advocated by Dr. Nelken, and perhaps they could supplement this with the safe minimum of time of administration which might be required for the injection, which also presumably lies somewhere between the time used by themselves and that advocated by Dr. Nelken.

It is possible that the administration of arsphenamin in somewhat more concentrated solution, and more rapidly injected than that recommended may be satisfactory; but the collected experience available at the Hygienic Laboratory shows that a very large proportion of the instances of severe or fatal reactions have been associated with high concentrations of this potent drug and rapid administrations, and that therefore it seems unwise to approve of a technic which varies materially from that indicated by me. Moreover, it is illogical and unscientific to charge unfavorable reactions to a preparation when in its administration the explicit directions of the manufacturer have been grossly deviated from. Not only can the preparation not be blamed under such circumstances, but indeed the physician himself might fairly be held responsible for any untoward results when the directions on the package have been materially deviated from.

Dr. Pusey appears to be of the opinion that the toxic reactions following the use of arsphenamin are due to specimens of the drug that are "grossly contaminated." The fact, of course, is that even the purest arsphenamin is a very toxic substance, and samples of what are, judged by all evidence at hand, of high quality may, in rare instances, give serious or fatal reactions. The earlier standards for the drug made in this country were made to accord as nearly as possible with those of the German product, which had been imported previously; but even this drug had a large margin of safety, and, given well diluted and slowly, was a safe product.

Dr. Pusey calls attention to the fact that animal experiments show that arsphenamin is less toxic when well diluted. While the Hygienic Laboratory has considered evidence from many sources, the purely experimental work on arsphenamin had no part in formulating the suggestions made; the latter were based exclusively on clinical reports.

The records collected by the Hygienic Laboratory cover the experience of a large number of physicians who administer arsphenamin. Our data were secured in response to a circular letter, published in the medical journals, requesting that reports be sent to us on all unfavorable results from the use of arsphenamin, and from reports made on results in venereal disease clinics under state and federal direction (the latter reports being made in accordance with the instructions of the Surgeon-General of the U. S. Public Health Service). These data embraced many thousands of administrations of the drug.

This experience of the Hygienic Laboratory may be, as Dr. Pusey intimates, inadequate; but the indications it afforded were so clear that it was felt proper to make them the basis of the suggestions published in THE JOURNAL. Practically all of the fatalities and the severe reactions that have been reported to us were in cases in which the drug had been given in a concentrated form and given rapidly, or was mishandled in some other manner; though, almost invariably, the attempt was made to place responsibility on the arsphenamin. The most striking examples are briefly recorded here:

(*a*) A product which enjoys a particularly high reputation was held responsible by the physician for one fatal result and several severe reactions, though the same batch of the drug had been used by many others without unfavorable results, and in spite of the fact that in the cases in which he secured unfavorable results the drug was given in very concentrated form. The time of injection was too short, and there was doubt as to whether the proper amount of sodium hydroxid solution had been used.

(*b*) Another product was likewise misused by a physician, under almost the same circumstances as are related in the preceding paragraph. Here also there was one fatality and several severe reactions. The physician in this case was most emphatic in placing the responsibility on the particular brand of arsphenamin, and insisted on the satisfactory nature of the technic of administration. He has since reported severe reactions from two other brands of arsphenamin, both used in too concentrated form and given too rapidly.

(*c*) In a third case, several patients were injected and all gave "unusual and severe reactions," although the preparation was one which was highly satisfactory according to the animal test and which gave, so far as we know, no other unfavorable reactions. In reviewing the technic, the physicians responsible absolve the distilled water used, although it was old and contaminated with living micro-organisms, which they believed were killed by heating. They absolve the mode of administration, although the concentration given was a dose of approximately 0.45 gm. in 18 to 20 c.c. of water, and hold the drug itself responsible, stating: "By excluding all other factors, it would seem that this drug was responsible for the reactions."

(*d*) In another report bearing on a lot of the drug which proved satisfactory in the laboratory tests and which is not reported to have given any other unfavorable results, the physician himself noted that he got reactions only when the drug had been dissolved in warm water, and that reactions were absent when water at room temperature was used; he candidly remarks that the manufacturer's instructions carried a caution against dissolving the drug in hot water.

These are examples of the clinical reports, on the basis of which I felt justified in publishing the letter which has given rise to the controversy. There is no desire on my part, as Dr. Pusey puts it, to "saddle all arsphenamin accidents on the technic," as I am sure these may occasionally occur when the technic is satisfactory; but I do object to saddling accidents on the drug when it has been used in a grossly improper fashion, and directly in conflict with the instructions of the manufacturer.

Arsphenamin is made in batches which go into anywhere from several hundred to several thousand ampules. Practically any batch of a product is likely to go into the hands of a number of physicians, and when only one of these registers complaint as to the quality of the drug, and the others use it with satisfaction, there seems to be no other conclusion than that the mode of administration in the exceptional case was at fault.

The study of the laboratory and clinical data we have at the Hygienic Laboratory indicates that the arsphenamin now produced by the various manufacturers varies but little, and all is of as high quality as the imported German product. Reports of serious or fatal reactions have been received covering the product of every licensed manufacturer, though the number of reactions in relation to the output of each plant is unknown.

How any physician can justify himself in administering a potent and toxic drug in high concentration, when every package carries a circular with explicit instructions to give it well diluted, is difficult to understand. Certainly, when the manufacturer's own instructions as to preparation for use are grossly violated, the producer has good grounds for claiming that unless the technic of administration was in accord with the instructions the drug should not be held to be at fault, without clear proof that it was to blame.

Physicians should recognize that by using a high concentration of the drug and giving it rapidly they afford the producer of even a poor batch a very satisfactory defense, as the methods many physicians employ introduce the very factors that make for the maximum of unfavorable reaction of even a good preparation, and make it impossible to prove that any preparation is poor. On the other hand, if the drug is used in accordance with the producer's instructions and unfavorable results follow, the case against the drug is strengthened.

G. W. McCoy, M.D., Washington, D. C.
Director, Hygienic Laboratory, U. S. P. H. S.

To the Editor:—In recent issues of THE JOURNAL there has been some discussion as to the propriety of giving neo-arsphenamin in concentrated solutions. While serving as urologist to the American Army Schools at Langres, I had considerable experience with this drug, and my observations may be of interest to your readers. It was the custom in the American Expeditionary Forces to give the French novarsenobenzol brand of neo-arsphenamin in 2 c.c. of sterile distilled water. This technic was approved and adopted by the men in charge of the Urological Section of Medical and Surgical Consultants, and was described in the Manual of Military Urology, published for use by all urologists in the A. E. F.

The technic is simple. The neck of the ampule is filled and the tip broken off. An ampule containing 2 c.c. of sterile distilled water is then broken at both ends and the water allowed to flow into the ampule containing the neo-arsphenamin. Slight agitation effects solution very promptly, and the clear fluid is then drawn up in a hypodermic syringe of Lüer type. By this technic the neo-arsphenamin is subjected to the minimum amount of transference from one receptacle to another, and the danger of contamination is reduced to a minimum.

During nine and a half months I employed this technic constantly, and must have given in the neighborhood of 600 to 700 injections personally. At the same time it was being administered in the area at various camps and dispensaries under my supervision, so that I think it safe to estimate that at least 2,000 injections were given during the period of my residence at Langres. I did not hear of a single case of any severe reaction. One patient used to vomit in the office after receiving his injection, but this was the utmost that ever happened. Two patients developed mild dermatitis.

It is a question whether a similar series of cases in support of any other technic could be adduced; the results, as far as severe reactions are concerned, were as good as could be obtained by any technic.

But apart from the question of severe reactions, there is another aspect which I think ought to be considered; that is, the cost of adequate treatment to the patient. Speaking recently with a physician who employs old arsphenamin, I learned that he sterilizes all apparatus in an autoclave in order to avoid possible contamination from boiling in water which may contain mineral salts. It is exceedingly difficult to get a chemically pure sodium hydroxid, and sodium chlorid may also contain impurities that are capable of reducing the arsphenamin. If filtered, one more transfer of the liquid becomes necessary with its accompanying chance of contamination.

The most rigid technic possible cannot exclude every possibility of contamination, reduction and consequent poisoning of our patient, but it can and does make the procedure a very expensive one, and this expense must be borne ultimately by the patient, unless the people are to be pauperized. The simple technic which I have described not only necessitates less exposure of our chemical to contamination and reduction, but also eliminates the labored technic formerly employed, and renders it possible for the physician to administer treatment at about the cost of an ordinary office visit, plus the actual cost of the chemicals employed.

As we wish to bring relief to the greatest number of people possible, it seems to me that this is a point worthy of the most careful consideration.

Severe reactions after giving neo-arsphenamin are almost certainly due to some fault in technic, avoidable or unavoidable, whereby the arsenical preparation undergoes some sort of reduction before administration, and I think we have ample evidence that the giving of the drug in concentrated solution is not, in itself, objectionable, and that it may even reduce the danger of decomposition, favored necessarily by excessive handling, transferring from one vessel to another, passage through filter papers, etc.

H. MCCLURE YOUNG, M.D., St. Louis.

DIPHTHERIC WOUND INFECTIONS

To the Editor:—In THE JOURNAL, Sept. 8, 1917, p. 791, we described an outbreak of wound diphtheria. This communication stimulated interest in the subject, and led to the publication of the results of several investigations notably those of Janes and Thomas (*Canadian Medical Association Journal*, May, 1919) and that of Adami and his collaborators (*Bulletin of the Canadian Army Medical Corps*, June, 1918).

We investigated carefully a considerable number of cases of diphtheric wound infections in the spring of 1917, and carried out virulence tests and protection experiments on several of the strains of *B. diphtheriae* isolated at that time. No endeavor was made to determine the virulence of every strain isolated, nor was any attempt made to ascertain precisely the proportion of wound infections which were due to *B. diphtheriae* in all of the cases studied. We contented ourselves with pointing out that we had observed an epidemic outbreak of wound diphtheria, and that "it was extremely probable that patients with diphtheric wound infections were being returned to Canada from overseas"; we suggested that a routine bacteriologic examination of all suppurating wounds be made, in order that wound infections due to *B. diphtheriae* might be discovered and appropriately dealt with, and, finally, we recommended that diphtheria antitoxin be used in the general treatment of the condition, in addition to any local treatment that might be tried.

The expansion of the literature dealing with this subject has been such that a brief summary of the present situation is probably desirable. Adami and his co-workers in their paper reported that in an investigation of 306 cases of infection of open wounds, they found only two which were caused by *B. diphtheriae*, and were therefore led to the conclusion that "there is a large body of evidence showing that even isolated cases of diphtheria infection of wounds are distinctly uncommon among the wounded overseas and complete absence of any evidence in Great Britain that these isolated cases have acted as foci for the spread of the infection to other wounded men. No evidence of a widespread infection of open wound by diphtheria bacilli has been discovered in Canadian hospitals overseas, in Great Britain."

We were not in a position to comment on the foregoing, nor indeed were we able to furnish conclusive evidence in our first communication as to the source of some of the diphtheric wound infections seen by us. That we observed an epidemic of diphtheric wound infections in military hospitals in Toronto, during the spring of 1917, has been definitely established and is one of the very few reports of actual epidemic outbreaks of this condition that has appeared in the literature. No evidence was brought forward by Adami to controvert our observations in regard to this outbreak.

The conclusion expressed in the paragraph quoted above, however, was very definitely opposed to the view that diphtheric wound infections contracted in England were being seen in men returned to Canada. It should be mentioned that the wounds observed by us were very largely in men who were returned to Canada from special military orthopedic hospitals in the United Kingdom.

Complete confirmation of the opinion expressed by us has just been furnished by Janes and Thomas. These observers, working as pathologists to the Granville Canadian Special Hospital, Buxton, England, have found that "from those cases in which pure cultures were obtained, 6.4 per cent. of open wounds in this hospital show infection with *Bacillus diphtheriae*." We may safely infer, therefore, that the conclusions here arrived at entirely substantiate the inferences drawn by us as a result of our original observations.

The routine swabbing of suppurating open wounds practically eliminates the danger of an epidemic of diphtheric wound infection. That secondary cases of nose and throat diphtheria may arise from cases of diphtheric wound infections has been reported by Hartsell and Morris (The Journal, May 10, 1919, p. 1351), who describe an outbreak of throat diphtheria which occurred in a military base hospital in France. Infection remained a mystery until cases of wound diphtheria were discovered; then, with the establishment of strict quarantine and the adoption of "most careful wound technic," the outbreak was brought under control.

We would again recommend that both in civil and military hospitals a careful bacteriologic examination be made of all suppurating open wounds. We have pointed out that clinically the diagnosis between diphtheroid or other aerobic, and true diphtheric, wound infections cannot be made. It is necessary, if the diagnosis of wound diphtheria is to be definitely established, that a careful bacteriologic examination be undertaken which will include virulence tests and protection experiments.

It may not be feasible to undertake virulence and protection experiments in every case, especially early in an epidemic outbreak; but the true character of the infecting microorganism should be definitely determined in at least a few cases at first, and if the outbreak is not almost at once controlled, routine virulence and protection tests made. This was the procedure adopted by us in our work done in the spring of 1917 in military hospitals in Military District No. 2, Toronto.

J. G. Fitzgerald, M.B.,
D. E. Robertson, M.B., Toronto.

ANDREAS CAESALPINUS: AN ANSWER

To the Editor:—In The Journal of June 21 is a current comment headed, "Andreas Caesalpinus," in which the writer in view of the fact that the present year marks the four hundredth anniversary of the birth of Caesalpinus, detracts somewhat from the claim that Caesalpinus had any great part or merit in the discovery of the circulation of the blood. The conclusions seem to be that Harvey was the real discoverer of the circulation of the blood, and that to him all honors are due.

Andreas Caesalpinus, whom the writer characterizes as a "botanist and writer on medical topics," was recognized in his day as the most learned man of his age, and his contemporaries called him "papa philosophorum" (father of philosophers). Aside from his contribution to the discovery of the circulation of the blood, he published a book, "De Plantis," which gives the best classification of plants up to his time, and won for him undying fame as the forerunner of Linnaeus. In his book "Quaestiones Peripateticae," published in 1593, Caesalpinus assumes a constant and physiologic transit of the blood from the arteries to the veins, through the anastomosis, which he termed the "Vasa in capillamenta resoluta," to every part of the body. This perpetual forward movement of the blood from the venae cavae to the right heart, thence to the lungs, from the lungs to the left heart, and from the left heart to the arteries, was termed by him "circulatio." He was the first to recognize the arterial structure of the pulsating vessels. He also recognized that the blood in the arteries stands at far higher pressure than that in the veins, and that in its passage from the one to the other, the capillary anastomosis offers greater or less resistance according to the degree of its contraction or dilatation. Again, in his work "De Plantis" Caesalpinus affirmed that the blood "per venas duci ad cor, et per arterias in universum corpus distribui (the blood is carried through the veins to the heart and through the arteries it is distributed through the whole body). In the same year (1593), Caesalpinus published his "Quaestionum Medicarum Libri II," giving the experimental evidence of his theories. These experiments, which would be too long to enumerate and describe in an article of this kind, give the proof that his conclusion was based on rigid scientific studies.

I am not going into the controversy as to whom belongs the credit of the discovery of the pulmonary circulation—whether to Servetus or to Realdus Columbus. I wish, however, to call attention to the fact that Realdus Columbus was professor of anatomy at the University of Padua from 1542 to 1546, that he was the teacher of Caesalpinus, and that Servetus was also a student at the University of Padua. The Padua school was the real hotbed, at that time, for the overthrow of the Galenian doctrines, and the establishment of the new theories that led to the discovery of the circulation of the blood. Harvey arrived in Italy in the year 1598 and departed in 1603. In the meantime, he studied medicine at Padua, where he obtained his diploma in 1602. There can be no doubt that he was thoroughly acquainted with the work of Caesalpinus and Realdus Columbus. In fact, the works of Caesalpinus were so renowned that they had received the honor of four editions, one of which was edited in Padua. Caesalpinus' work "De Plantis" and the appendices to the "Quaestiones Peripateticae" and to his "De Plantis," in which his theory of the circulation of the blood was repeated, were all published in 1603, the same year that Harvey left Padua. Harvey, while he was studying in Padua, no doubt attended the lectures of Eustachio Rudio, professor of the practice of medicine, in the university; therefore he must have been well acquainted with the bitter criticisms directed against Rudio, who wrote a book, "De naturali ac morbosa sanguinis constitutione," in which he collected all the good and best of the doctrines of Caesalpinus and Columbus. Harvey has evidently made use of this work, reproducing even some of its errors, as has been demonstrated by Zecchinelli. Harvey in his work does not even mention the name of Columbus or Caesalpinus. He failed to mention and give proper credit to Cannani and Fabricius for the discovery of the valves in the veins. Also he failed to give proper credit to Paulus Sarpi for the demonstration of the function of the valves in favoring the centripetal flow of the blood in the veins, although in his demonstration of the circulation of the blood he made use of Sarpi's discovery.

His silence, when accused of plagiarism by his contemporaries, Micanzio, Vesling, Walaeus, Riolan, Bartholin and others, indicates that he prudently avoided a dispute in which he had much to lose and nothing to gain.

If a discovery is the act of finding out and bringing to public notice something unknown before, I cannot agree that to Harvey belongs the credit of the discovery of the circulation of the blood. Nevertheless, I recognize that Harvey's small book, which was published at Frankfurt in 1628, "Exercitatio anatomica de motu cordis et sanguinis in animalibus" is unmistakably the masterpiece of a man of genius. His many and original experiments on this subject and his coordinate arrangement of all knowledge pertaining to the circulation of the blood, are the real pillars to his glory.

Most of the data given in this article, have been taken (some verbatim), from Luciani's "Human Physiology," Vol. I, chapter on circulation of the blood, and from the annotations of Professor Antonelli to the anatomy of Hyrtl.

C. VOLINI, M.D., Chicago.

QUESTIONABLE LONGEVITY OF THE BULGARIANS

To the Editor:—Isn't it curious that generation after generation of medical men should continue apparently without question to accept Metchnikoff's statement about the longevity of the Bulgarians? I have heard his deductions questioned, but never his facts. Yet it should not require great acumen to infer that it would be extremely difficult to verify the ages of individuals among primitive peoples like those of eastern Europe.

My father was a missionary in Bulgaria for many years. He toured the country thoroughly and of course talked with any number of peasants. He has told me that one striking thing about peasant life in Bulgaria was the scarcity of old persons. People generally did not know their ages. But by inquiring about events they remembered, he was often able to make a good approximation. It was very rare that he found a person as old as 70. Men and women alike would look to be in the late seventies or eighties when they were in the fifties. The extremely hard life, and the absence of modern sanitation and knowledge of hygiene made them prematurely old and left them an easy prey to disease.

Metchnikoff, I presume, simply repeated another of the old wives' tales that make up so large a part of the supposed information on diet. His statement seems to have been taken as seriously as the Third George's inquiry why hot water froze sooner than cold.

H. J. HASKELL, Kansas City *Star*, Kansas City, Mo.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TREATMENT OF GONORRHEA

To the Editor:—IN THE JOURNAL (April 26, 1919, p. 1255) there appears an abstract of an article by Pineo and Baillie on the treatment of gonorrhea by pus vaccines. Will you please give me your opinion as to this treatment; and if favorable, the place where they may be obtained.

ENRIQUE ORAÑANOS, M.D., Torreón, Coah, Mexico.

ANSWER.—The vaccine mentioned above is not available for sale, as it was manufactured by the authors themselves for their own use. The treatment must be considered as being still in the experimental stage. It must also be noted that in this experiment there were no control cases treated with other vaccines. The authors, themselves, while claiming for it "incomparably better results" than with any vaccine previously used by them, recognize that only certain types of cases are benefited and that dangerous effects may result unless care is shown in selecting the cases and in the dosage. There is also the danger of inoculating the patient with "other bodies besides active gonococcal antigen, such as spores, etc." Until more evidence is available as to the merits of pus vaccine, the standard treatment of gonorrhea, such as described, for instance, in the Manual of Treatment of Venereal Diseases, should be depended on by the average physician.

PROTEOGEN

To the Editor:—Is there available information concerning a product exploited by William S. Merrill Company under the title "Proteogen"? They market "proteogens" for twelve distinct conditions. Their claims are extravagant. I wish to know whether the Council has investigated the product and what has been the verdict.

F. J. BOMBERGER, M.D., Mapleton, Minn.

ANSWER.—Yes. See pages 109 and 128, this issue.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

NEW MEXICO: Santa Fe, July 14. Sec., Dr. R. E. McBride, Las Cruces.

Convention of the Catholic Hospital Association

The Catholic Hospital Association of United States and Canada held its fourth annual convention at St. Francis Xavier's Academy, Chicago, June 25-27, Rev. Charles B. Moulinier presiding. The main discussions were in regard to the organization of the staff with frequent regular meetings, laboratory in charge of a properly trained person to cooperate in all diagnoses, and case records from physical examination to end-results, in charge of a trained historian backed by the management. A most effective means of conducting the general discussion was a questionnaire pamphlet containing numerous questions sent in before the convention and answered on the floor by committees of specialists previously appointed by the chair. No uncertainty was allowed to prevail concerning the catholic adherence to the moral law and principles of the Catholic Church relating to hospital practice. Over 250 of the 652 Catholic hospitals in the United States and Canada and over 500, or one-fifth, of the doctors practicing in Catholic hospitals were reported as having joined the association. In the near future district or state branches of the association sufficiently small to comprehend local conditions will be organized and the work of these local units will be in charge of Rev. M. F. Griffin of Youngstown, Ohio. A monthly bulletin will be issued beginning in October, 1919. A committee will be appointed to plan for a Catholic training school for supervisors of nurses and superintendents of hospitals. Rev. Charles B. Moulinier of Milwaukee was reelected president, and Dr. Bernard F. McGrath, secretary-treasurer. The next convention will be held in St. Paul, June 23, 24 and 25, 1920.

Arizona January and April Examination

Dr. Allen H. Williams, secretary of the Board of Medical Examiners of Arizona, reports the oral and written examination held at Phoenix, Jan. 7-8, 1919. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 17 candidates examined, 16 passed, and 1 failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
College of Physicians and Surgeons, Little Rock		(1908)	75.3
Chicago College of Medicine and Surgery		(1917)	84.6, 90
Hahnemann Med. Coll. and Hosp., Chicago		(1913)	86.9
Jenner Medical College		(1904)	76
College of Physicians and Surgeons, Keokuk		(1890)	80.7
Hospital College of Medicine, Louisville		(1896)	80*
Kentucky School of Medicine		(1893)	81.7
Homeopathic Medical College of Missouri		(1890)	96
New York Homeopathic Medical College and Hospital		(1899)	87.3
Eclectic Medical College		(1918)	87.3
Ohio State University College of Medicine		(1918)	75.3
Chattanooga Medical College		(1905)	75.6
Universities of Nashville and Tennessee		(1911)	85.6
Southwestern University Medical College		(1907)	87.3
National School of Homeo. Med., Mexico		(1910)	†
	FAILED		
John A. Creighton Medical College		(1906)	56.3

* The official records of the college named do not contain the name of this applicant.
† No grade given.

The examination held at Phoenix, April 1-2, 1919, covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Ten candidates were examined, all of whom passed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Georgetown University		(1900)	85
Illinois Medical College		(1901)	76
College of Physicians and Surgeons, Chicago		(1904)	77.3
Tulane University		(1893)	80
University of Michigan		(1901)	85
St. Louis College of Physicians and Surgeons		(1909)	80.9
University Medical College of Kansas City		(1912)	87
Cincinnati College of Medicine and Surgery		(1875)	75
University of Nashville and Tennessee		(1911)	77
School of Medicine of Nuevo Leon, Monterey		(1891)	85.7

Hawaii January Examination

Dr. J. R. Judd, secretary of the Hawaii Board of Medical Examiners, reports the written examination held at Honolulu, Jan. 13, 14, 15 and 16, 1919. The examination covered 8 subjects and included 64 questions. An average of 75 per cent. was required to pass. Of the six candidates examined, 1 passed and 5 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Chicago College of Medicine and Surgery	(1914)	83.5
FAILED		
University of Louisville Medical Department	(1910)	72.6
Bennett College of Eclectic Medicine and Surgery	(1908)	74.7
Chiba Special Medical School, Japan	(1908)	56.6
Tokyo Charity Hospital Special Medical School	(1916)	62.2
Tokyo Imperial University	(1917)	57.1

Oklahoma January Report

Dr. J. J. Williams, secretary of the Oklahoma State Board of Medical Examiners, reports the written examination held at Oklahoma City, January 7-8, 1919. The examination covered 11 subjects and included 110 questions. An average of 70 per cent. was required to pass. Two candidates were examined, and passed. Thirteen candidates, including one osteopath, were licensed through reciprocity, and 8 candidates were granted reregistration certificates. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Birmingham Medical College	(1915)	84
New York University	(1887)	81

College	Year Grad.	Reciprocity with
LICENSED THROUGH RECIPROCITY		
University of Arkansas	(1913) (1917)	Arkansas
Medical College of Indiana	(1892)	Missouri
Louisville Medical College	(1907)	Kansas
University of Louisville	(1894)	Texas
American Medical College	(1890)	Missouri
Beaumont Hospital Medical College	(1887)	Missouri
Kansas City Homeo. Medical College	(1896)	Missouri
Western Homeopathic College	(1868)	Kansas
Chattanooga Medical College	(1892)	Missouri
University of Tennessee	(1913) Tennessee; (1917)	Mississippi

Massachusetts March Examination

Dr. Walter P. Bowers, secretary of the Massachusetts Board of Registration in Medicine, reports the oral, written and practical examination held at Boston, March 11, 12 and 13, 1919. The examination covered 13 subjects and included 70 questions. An average of 75 per cent. was required to pass. Of the 116 candidates examined, 98, including 4 osteopaths, passed and 18, including 5 osteopaths failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Howard University	(1888)	77.7
Chicago Hospital College of Medicine	(1918)	76.8
Jenner Medical College	(1917)	76*
Loyola University, Chicago	(1916)	75.5
Johns Hopkins University	(1917)	78.4
University of Maryland	(1917)	83.7
Coll. of Physicians and Surgeons, Boston	(1918) 84.7; (1919)	76.6
Harvard University	(1917) 82.5, 83.5; (1918) 78.9, 82.1, 84.5; (1919) 80.1, 82.7, 84.7.	
Middlesex College of Medicine and Surgery	(1918)	76.5
Tufts College	(1916) 78; (1919) 75, 75, 75, 75, 75.1, 75.1, 75.1, 75.2, 75.2, 75.2, 75.5, 75.5, 75.5, 76.2, 76.6, 76.7, 76.7, 77.1, 77.2, 77.3, 77.3, 77.7, 77.7, 77.9, 78, 78.2, 78.2, 78.2, 78.4, 78.5, 78.7, 78.8, 79, 79.1, 79.2, 79.2, 79.2, 79.2, 79.2, 79.2, 79.2, 79.5, 79.7, 79.8, 79.9, 79.9, 80.2, 80.3, 80.3, 80.3, 80.4, 80.5, 80.6, 80.7, 81, 81, 81.2, 81.2, 81.5, 81.5, 81.7, 82.1, 82.1, 82.8, 83.2, 83.5, 83.7, 84, 84.7.	
College of Physicians and Surgeons, New York	(1881)	76.2
Columbia University	(1919)	81.1, 83.2
Jefferson Medical College	(1894)	77.2
University of Vermont	(1896) 77.6; (1915)	81.4
McGill University	(1913)	82.8
FAILED		
Chicago Hospital College of Medicine	(1917) 71.7; (1918) 63.5, 71, 72.2.	
Baltimore Medical College	(1905)	65.5
Maryland College of Eclectic Med. and Surg.	(1902)	47.1†
College of Physicians and Surgeons, Boston	(1914)	68.5
	(1915) 67.2; (1916)	72.6
Middlesex College of Medicine and Surgery	(1918)	69.9
Tufts College	(1917)	71.5
Laval University	(1917)	71.3
Montreal School of Medicine and Surgery	(1910)	60.9

*Graduation not verified.

† The year of graduation is evidently not correct, as the college was not known by the name given until in 1914. The institution, according to report, was not recognized by the Maryland Board of Medical Examiners.

Social Medicine, Medical Economics and Miscellany

Official Report on the Practice of Medicine by Unqualified Practitioners

As was mentioned in THE JOURNAL at the time, July, 1917, a commission was appointed by the public health authorities in the Netherlands, in response to considerable agitation and discussion on behalf of unqualified practitioners of medicine. The commission was given the task of settling the question as to the *doeltreffenheid* of the unqualified practitioners, that is, to investigate their claims, their methods of treatment and the results attained. The commission was composed of twelve of the leading physicians and surgeons of the country, including Treub, Hijmans, van den Bergh, Pekelharing, Laméris and Winkler. After nearly two years of research, their report has been published. It forms a quarto of sixty pages, and the main points have been summarized in the *Nederlandsch Tijdschrift*. Conditions were made extraordinarily favorable by the commission for the unqualified practitioners to present their patients for examination and control of the treatments and the results. They were universally invited, and when necessary the hospital, hotel and traveling expenses for both the unqualified and their patients were paid by the state. The members of the commission in nearly two years of work made a point of investigating only cases which they were able to examine beforehand themselves, not paying any attention to cases that dated from previous periods. It was found that the number of sick persons who were willing to submit to treatment by the unqualified was small, and only thirty unqualified practitioners were willing to submit patients to the commission's consideration, a total of ninety-six patients besides fifteen who were taking a course of treatment in a magnetic institute. The whole report is written from the objective standpoint with full details of the various cases.

The conclusions on the side of a favorable influence from the treatment by unqualified practitioners are: "The influence from suggestion exerted by certain unqualified 'healers' and probably also by the practitioners of Christian science may have a favorable action on sick persons. 2. Moreover, there are some among the unqualified persons who have become very skilful at massage. 3. It is also quite possible that the knowledge of the nature of a salve or mixture of herbs, the composition of which is kept secret, might prove of advantage in the treatment of certain definite affections."

The conclusions on the reverse side are: "The agitation and discussion during the last few years which resulted in the appointment of our commission make it incumbent on us to point out the great dangers to the public health which the results of the commission's investigations have established as inherent in allowing unqualified persons to practice medicine, dangers not only for the sick themselves but for the community at large. Our investigations have confirmed that in some cases, especially in the easily influenced or those with a leaning to mysticism, benefit may be realized from their complaints under treatment by magnetizers or other unqualified practitioners. When one is suffering from pains or does not feel well enough to attend to business, it is certainly an advantage for him if he does not feel the pain any more or if he is able to return blithely to work. But this is no proof that in reality he has been freed from his ailment. The unqualified, even the patients themselves, heed only the subjective complaints; the causes of the disturbances are hidden from them. Hence the numerous disappointments when after a period of transient improvement, the complaints return again and become accompanied by others on account of the progress of the malady, which with skilful examination and appropriate treatment in an earlier period might perhaps have been cured. Not one of the unqualified practitioners who submitted to examination displayed any knowledge of scientific medicine (ziektekunde). They use the names of diseases which they have heard from

others, or words such as 'glands,' without any meaning in the sense in which they are used. They undertake to treat the sick without any conception of the malady from which they are suffering, paying heed only to certain obvious and easily noted phenomena. In treating the sick with internal disease they are unable to determine whether the individual is suffering from an infectious disease, with danger of its spreading, and in this respect unqualified practitioners are a distinct menace to the public health. They have no means of knowing whether an internal affection may not require surgical help, and thus they are a menace to the health and even the life of the individual who has trusted himself to their care. When they take external diseases under treatment then they are dangerous on account of their lack of knowledge of the theory of infection."

School Health Work for the Small City

Recognizing the urgent demand for thorough and constructive health work in the public schools of its own state, and appreciating the difficulties of providing for this work in the manner of the larger cities where greater appropriations are available, the University of Oregon, through its extension division, in Leaflet Series 4, No. 8, Part 2, sets forth a plan for the organization of health work in the small city of from 5,000 to 15,000, prepared by W. R. Rutherford, superintendent of the schools of Eugene, Ore., after a study of the plans of such cities in forty-seven states. The nucleus of the plan is the health director, not necessarily a woman, but more likely to be, in the smaller city, who shall be in charge of all branches of health work in the schools. The health director should be a graduate, preferably, of one of the broad physical education courses now being conducted in some of the colleges, in view of the impossibility of employing on a full-time basis a competent physician, and should have available the paid or voluntary assistance of a good physician for help in diagnosis. Larger towns may afford a director, a nurse and a school physician. In this plan teachers should have a good knowledge of health matters as relates to the pupils and should participate in the work, coming in contact frequently with the director, whose enthusiasm should enlist their hearty cooperation. The chief features of the work have relation to the inspection of the pupils, and include the prompt recognition and handling of the contagious diseases; the establishment of health records and the elimination of physical defects; physical training; mental tests; health lessons, etc., including the hygiene and sanitation of the surroundings of the pupils. The pamphlet giving the details of the plan and a bibliography on school administration and health activities may be had from the extension department of the university at Eugene.

Fall from a Cliff 320 Feet High Without Fatal Injuries

An almost incredible case in which a soldier fell from a cliff 320 feet high without fatal injury is reported in the *Guy's Hospital Gazette* of Great Britain by Mr. Philip Turner. This accident occurred near a hospital camp situated on a level stretch of ground at the top of a chalk cliff between 300 and 350 feet high on the French coast. As is commonly the case with a chalk cliff, the face is practically perpendicular but decidedly irregular, there being a series of small bays and promontories. At 9 a. m., Dec. 9, 1916, Mr. Turner was informed that a man had fallen over the cliff and was being brought to the hospital. When first seen he was not unconscious, but was restless and delirious, and could not answer questions. His head and face were covered with blood, chalk and gravel, and his clothes, including a service great coat, were soaked with water and soiled with the same materials. He was soon identified as a private in a Canadian regiment who had been admitted into a neighboring hospital with a slight wound of the arm. This had healed, and he had been discharged to the convalescent depot in the same camp, where he had last been seen at 5:30 p. m. on the previous day. There were about ten scalp wounds, four of which extended down to the bone, and in one of these in the right frontal region a fissured fracture of the skull of uncertain extent could be made out. There was no depressed fracture nor paralysis, the pupils were normal, and though there was bleeding from the nose, there was no hemorrhage from either external auditory meatus. There was a large wound of the right knee where a flap of superficial tissues was torn, opening up the popliteal space. There were a number of superficial cuts and contusions, but no fractures of any of the limb bones. It was thought that there was probably an extensive fracture of the base of the skull, and little hope was entertained of the man's recovery. After three days the delirium had diminished, but he was still unable to answer questions. The knee joint was found to have been opened and was washed out, the damaged portion of the capsule and the synovial membrane was excised, and the rent was sutured. The only sign of intracranial trouble was noticed, December 17, when there was slight left facial paralysis with inequality of pupils, the right being larger. A roentgenographic examination of the skull detected no definite injury. The man recovered with an ankylosed knee, but he had no recollection of leaving the camp or what he did on the night of December 8, or how he was injured. Some French laborers were at work on the beach at the time of the accident, and two of them noticed a falling object against the white surface of the cliff which struck and bounced from a ledge and fell on the beach. Mr. Turner thinks that the amnesia was due to some unrecognized mental or hysterical disturbance resulting from his having been under fire, which caused him to spend an inclement winter's night straying about and to wander on the cliff. He suggests that a possible explanation of this tremendous fall with so little injury was a strong wind that was blowing in from the sea, causing an up draft, especially at the cliff base of the bay. This might have got beneath the man's great coat, breaking the fall by producing a parachute effect.

The only comparable case on record occurred at Lulworth Cove on the Dorset coast. It is thus described by Sir Frederick Treves in "Highways and Byways in Dorset":

> The cliffs that shut in the cove on the land side are steep and terrible. On the beach at the foot of the highest precipice is a board with this inscription on it: "This marks the spot whereon E. H. L., aged 11 years, fell from the summit of the cliff, a descent of 380 feet, Sept. 7, 1892. She miraculously escaped without sustaining lifelong injury." Any who look up from this spot to the fringe of grass which crowns this appalling wall will never credit that a child can have fallen from a height greater than that of St. Paul's Cathedral without having been mangled to death. I was on the beach when she was brought to the coastguard boathouse. She came down with her back to the cliff. Her clothes were torn into strings, and it would appear that the catching of her garments on the rough face of the precipice, together with the circumstances that certain slopes and ledges were encountered in her descent, help to explain the incredible fact that she escaped without permanent ill effect.

Education of the Organic Functions in Infancy

Sir Eric Pritchard (*Medical Press and Circular*, March 19, 1919) says it is too common a belief that the organic functions unfold themselves automatically on correct normal lines apart from the influence of the environment. In most cases they do, but they are largely under the control of human intelligence, and if directed unwisely give bad results, even permanently bad results. This applies especially to feeding habits. The neuromuscular mechanism by means of which food is swallowed, churned in the stomach and conveyed through the entire length of the intestines depends for its smooth working on accurate coordination of a vast number of involuntary muscles, some of which are specialized to constitute regular sphincters, while others carry out peristaltic functions. Overaction, perverted action or incoordinated action of these mechanisms is likely to result if the wrong sort of stimulus is provided in the first instance. It is important to set the mechanism in motion in the right way at the beginning of life. An infant who in the first days of life swallows its food in a perfectly coordinated manner is not likely to develop any symptoms of dysphagia afterward. But if on account of food unsuited in either quality or quantity an infant acquires a faulty habit of swallowing, the

perverted function may remain permanently established no matter what steps may be taken to correct it. A form of this perverted function is called "rumination," which is a spasmodic closure of the cardiac sphincter, which leads to the retention of food in a dilated esophagus and the subsequent regurgitation of food which has never really entered the stomach. The motor mechanisms of the stomach are far more liable to be wrongly developed than those of the esophagus. Under normal conditions breast feeding induces normal evolution of gastric function, colostrum being especially perfectly adapted, by reason of its small quantity and stimulating qualities, to elicit the required motor response in the stomach, but causing no violent motor response of the pyloric sphincter or of the stomach. It gradually changes in a few days into ordinary milk and so calls the normal functions of the stomach into play. Cases of pyloric spasm constantly arise in young infants because of giving unduly large amounts of diluted cow's milk during the first few days of life. So-called wind in infants is generally caused by dysperistalsis or spasm of some section of the musculature of the intestine, generally of the transverse colon, and is usually due to faulty education or overstimulation by excess of food, or by food of indigestible character. The spasm becomes habitual and tends to recur every day at the same time. Constipation or looseness of the bowels is also largely a matter of education. Interference with the functions of the rectum and anus by the favorite dose of castor oil is likely to cause the establishment of faulty and incoordinated reactions, by clearing the bowel at one fell swoop of the beneficent meconium which is intended to educate the rectum in the functions of defecation.

New York's Health Record for 1918

The report on vital statistics for 1918 has been made public by Dr. William H. Guilfoy, registrar of records of the department of health. Up to the time of the outbreak of the influenza epidemic, New York was on the way to establish a new low mortality record. Unfortunately, this was not realized, and owing to the many deaths from influenza the annual death rate was 17.30, almost four points above the annual death rate for several recent years. The influenza epidemic increased not only the adult death rate, but also that of children under 5 years of age, there being 21,019 deaths in this group, or 2,754 more than in 1917. The large increase in the death rate was almost entirely due to influenza, there being only 196 deaths from typhoid fever, as against 229 for 1917, and only eight deaths from malaria, as against 250 in other recent years. There was no death from smallpox. There was a slight increase in the number of deaths from measles and scarlet fever, but a decrease in the number of deaths from diphtheria. There were 665 deaths from whooping cough during 1918, as against 489 in 1917. The number of deaths from pulmonary tuberculosis was 8,779, as against 8,825 for 1917. The report states that 4,139 persons died from cancer, with a rate of 84 per hundred thousand of the population, as against 4,867, and a rate of 85 during 1917. This is considered encouraging, as the trend of mortality from this cause has been steadily upward for twenty years. The statistics show that influenza had no effect on organic heart and kidney diseases. The general infant mortality table showed that 12,637 infants under 1 year of age died, with a rate of 92 for each thousand births, as against a rate of 89 in each thousand births in 1917. From Sept. 14, 1918, to March 10, 1919, there were 15,000 deaths reported from influenza, 6,600 from bronchopneumonia, and 10,775 from lobar pneumonia, 32,785 deaths all told from these causes. The annual death rate from these causes for the quinquennium 1913-1917 averaged 10,996. The number of births reported was 138,046, as compared with 141,564 in 1917. The birth rate was 23.51 per thousand of the population, the lowest the city has experienced since records have been kept. The number of marriages reported was 56,733, with a rate of 9.66 per hundred thousand of the population, as against 59,212 during the year 1917.

Medicolegal

Proof of Other Dates of Holding Out as Practitioner

(Commonwealth v. Runge (Mass.), 121 N. E. R. 449)

The Supreme Judicial Court of Massachusetts says that the defendant was charged with having unlawfully held himself out "as a practitioner of medicine" (in violation of Revised Laws, Chapter 76, Section 8), between March 3, 1915, and Aug. 3, 1915. At the trial the government did not put in evidence any such act between the dates named. But it did introduce evidence of one such act on Feb. 21, 1914, and of another on Feb. 12, 1915. The presiding judge instructed the jury that, if the defendant held himself out as a practitioner of medicine on any occasion preceding the date alleged in the complaint and within a period of six years next before that date, they could find the defendant guilty. To this ruling the defendant took an exception, and the exception must be sustained, and a new trial had. The offense created by said Section 8 may be committed by a single act or by a series of continuous acts; that is to say, it may consist of a single offense or of a continuing offense. In this case the government elected to charge the defendant with a series of acts committed between March 3, 1915, and Aug. 3, 1915, which constituted the continuing offense of illegally holding himself out as a practitioner of medicine. When a defendant is charged with a series of acts as a continuing offense, the offense charged in a single indivisible offense and a part of the description of the offense charged is the duration of time mentioned during which it is charged in the indictment the series of acts took place. It is for this reason that evidence of acts committed outside the time specified are not permissible in evidence. The district attorney argued that this had been changed by Section 10 of the act for the simplification of criminal pleading, but that section does not apply where time is an essential element of the crime.

Evidence in Action for Services Opposed by Claim of Malpractice

(MacCoy v. Gage (Calif.), 177 Pac. R. 296)

The District Court of Appeal of California, Second District, affirms a judgment in favor of the plaintiff, a licensed physician and surgeon, for $1,000, the full amount sued for and alleged to be the reasonable value of professional services rendered to the defendant, who filed a cross-complaint, seeking to recover damages which he alleged he had sustained by reason of unskilful treatment which he had received at the hands of the plaintiff. The court says it appeared that the plaintiff had been called on to attend the defendant, who had suffered a fracture of the neck of the femur. At his first visit the plaintiff adjusted the broken part and applied a weight to the limb. A trained nurse was called to attend the case, and the plaintiff continued his ministrations during several months, and until the defendant was able to move about on crutches. It was shown that the patient later became able to walk, even without the aid of a cane, at least for short distances. The plaintiff made eighty-five visits to the defendant. During the time he attended him he was called on to prescribe for other conditions than the broken bone, namely, pneumonia and rheumatism. From all of the medical testimony, even that produced by the defendant, it appeared that so far as the fracture was concerned, the results obtained by the plaintiff were better than the average. Under the evidence as presented, it was very clear that the matter of the value to be placed on the services rendered to the defendant was one exclusively for the jury.

A medical witness having stated his opinion as to the value of the services rendered by the plaintiff, what these services had been being detailed in the question, objection was properly sustained to a question asked on cross-examination, whether the witness would alter his opinion as to the value of the services, when this question assumed other matters not shown in evidence. And when the same witness was asked, on cross-examination, as to whether it was not customary, in cases of the character involved, to take a recnt-

genogram, the court cannot see how any prejudice resulted to the defendant by the sustaining of an objection to the question, even if it were to be conceded that the trial judge should have allowed the question to be answered. Concededly, the taking of a roentgenogram was valuable only for purposes of diagnosis, and it seemed very clear that the diagnosis made by the plaintiff without the aid of the roentgen ray was the correct one. More than this, the matter of the advisability and value of roentgenograms was fully gone into in the testimony introduced later in the case. The court thinks also that a refusal to permit counsel for the defendant to require the same witness to give in detail what he considered proper treatment to a patient under the circumstances shown was without error prejudicial to the defendant. The court did not debar the defendant from cross-examining on all matters contained in the hypothetic question on which the witness had answered in giving his opinion as to the value of the services, and it was within the court's discretion to refuse to allow the witness to enter on a discussion, possibly lengthy, as to a course of treatment not included within the facts as shown and on which he based his opinion as to the value of the services rendered.

Nor was there error in sustaining objections to questions asked the trained nurse who had attended the defendant under the direction of the plaintiff. The questions all went to the point as to what the witness had observed other physicians do in like cases, or what she considered good or customary treatment. The court does not think that the opinion of the trained nurse was competent evidence to show that the treatment administered by the plaintiff was improper.

Purchaser of Good Will Injured as Oculist

(Ferris v. Pett (R. I.), 105 Atl. R. 369)

The Supreme Court of Rhode Island says that, after the death of a Dr. Jewett, who had specialized in matters pertaining to the eye, ear, nose and throat, with practice as an oculist, the plaintiff, as administrator of his estate, contracted for the sale of his business, good will, surgical instruments, and furniture for $1,000, to the defendant, another specialist in the same lines. After making payments aggregating $500, the defendant refused to make further payments under the contract, on the ground that the plaintiff, who was an optician, had broken the contract on his part by interfering with the defendant's rights and impairing and injuring the good will, by solicitations addressed to the former patients of Dr. Jewett and designed to divert them from the defendant and secure to himself their future patronage. This action was then brought by the plaintiff, as administrator, to recover the balance which he claimed to be due under the contract. He recovered judgment for $500 and interest, but the supreme court thinks that the solicitations of the plaintiff, as evidenced by his letters to former patients of Dr. Jewett, amounted to a violation of the contract on his part, and that he was not entitled to recover that portion of the contract price which appertained to the good will, and suggested that he show cause, if any he had, why this case should not be remitted to the lower court with direction to enter judgment for the defendant. It appeared that the plaintiff, as an optician, had copies of prescriptions that had emanated from Dr. Jewett, and had written letters to the effect that, in going over his files, he found the name of the person addressed and prescription for glasses as made by Dr. Jewett some little time before; that in most cases like that of the person addressed, a change of lenses was advisable after such a period, and so he was writing to inquire if the party would like to make appointment with him for a reexamination. The court says that there is no conflict of interest between the oculist and the optician, so long as the one prescribes the lenses, and the other prepares and adjusts them to suitable frames, in which they become practically effective. In this case the plaintiff went farther, as his letters of solicitation clearly indicated. In these letters he not only suggested that the party addressed should obtain new glasses from him, but that he or she should undergo, at his hands, a reexamination of the eyes, with a view to adapting future glasses to such changed conditions as might have resulted from the lapse of time. The court cannot see how the kind or degree of skill required in determining what lenses were suited to the changed conditions would differ from that demanded in prescribing glasses in the first instance. The defendant testified that he received practically no advantage from the purchase of the good will of the business which had been carried on by Dr. Jewett. That fact would not in itself have any important bearing on his liability to pay the balance due under the contract. His mere failure to realize his expectations as to future business, in the absence of any fraud or interference on the part of the person from whom he made the purchase, would not establish a failure of consideration. But in this case there was something more to be considered than a failure of the defendant's expectations. The testimony disclosed that the plaintiff, after disposing of the good will of the business carried on by Dr. Jewett, interfered with the defendant's rights, and sought to divert the business from the defendant, for his own benefit, which clearly amounted to a violation of the contract on his part.

Scope of Review of Action of Board Revoking License

(State Board of Medical Examiners v. Noble (Colo.), 177 Pac. R. 141)

The Supreme Court of Colorado reverses a judgment of the district court entered on a writ of certiorari to the state board of medical examiners, which judgment reversed the action of the board in revoking the license of Noble to practice medicine in the state. The supreme court says that the board, on a hearing, had on a complaint charging Noble with having committed an abortion found him guilty as charged, and revoked his license. In the trial court it was contended that a judgment of acquittal in the criminal court, on a charge of having committed an abortion, was a determination of his innocence which the state board was bound to accept, and it was so contended here. But that went to the merits of the cause, which was not involved in this proceeding. The medical board had jurisdiction of the subject and of the person, and clearly did not exceed jurisdiction, or abuse its discretion. On a review of its action by writ of certiorari, those were the only questions to be considered. Whether its decision on the merits was right or wrong was not within the issue. No complaint was made that Noble did not have a fair hearing before the board, and that body's action was within the authority granted it by law. The judgment of the district court was unauthorized.

Compensation for Both Injuries and Malpractice

(Smith v. Battjes Fuel & Building Material Co. et al. (Mich.), 169 N. W. R. 943)

The Supreme Court of Michigan affirms an order of the industrial accident board denying the petitions of the company, Smith's one-time employer, and of the state accident fund, insurer, for the right to cease further payments to Smith as compensation under the workmen's compensation act, because he had received $2,125 from the physician who had treated him, on account of alleged malpractice in connection with the injury for which he claimed compensation, and for the reason that he had refused to submit to an operation. The court says that Smith had received an accidental injury in which his right arm was broken in at least two places, accompanied by a partial dislocation of the elbow joint. Thereafter a written agreement was entered into between him and the commissioner of insurance (the risk being carried by the state accident fund), by the terms of which he was to receive $6.49 per week during disability. Some months later, becoming convinced that the then condition of his arm, which was entirely useless, was due to malpractice on the part of the attending physician, he sued him therefor, and was paid $2,125 in settlement. The industrial accident board found that Smith's condition, which was one of total disability, was due to the original accident, and not to any malpractice; that his refusal to submit to proposed surgical operations on his arm, under the testimony in the case, was not unreasonable; that his receipt of the money from the physician did not constitute an election, within the meaning of the workmen's compensation act; and that the allegations in his declaration filed against the physician were not binding and conclusive on him, but might be

considered as evidence only. The court does not think that the fact that Smith started suit against the physician by declaration in which he averred that his condition of total disability was the result of malpractice, and not of the original accident, precluded him from asserting here that such condition was due to the original injury. The court is of the opinion that the board was correct in holding that the averments of the declaration were not conclusive as admissions against him, but might be considered by the board as evidence in connection with all the other evidence in the case. Nor does the court think that the state accident fund should have credit for the $2,125 received by Smith from the physician, in reduction of the amount due from it to him under the terms of the statute. The Michigan law makes no provision for the application of sums received by a claimant from a third party, not connected with the original accident, in reduction of the master's liability under the act. If such application should be made, it is a matter for legislative action, rather than judicial interpretation.

Society Proceedings

AMERICAN PEDIATRIC SOCIETY

Thirty-First Annual Meeting, held in Atlantic City, N. J., June 16-18, 1919

The President, DR. EDWIN E. GRAHAM, Philadelphia, in the Chair

Foreign Bodies in the Air and Food Passages

DR. EDWIN E. GRAHAM, Philadelphia: From a study of a comparatively large number of cases of foreign body in the air passages and a much smaller number of cases of foreign body in the food passages, it seems reasonable to conclude that foreign bodies in the air and food passages in children are much more common than has been supposed. Statistics tend to show that about 66 per cent. of the cases of foreign body in the air passages occurred in children. The period of latency of symptoms which follows the violent dyspnea and choking attack, and later the gradual onset and chronic character of the symptoms, may lead to failure to suspect the presence of a foreign body. Some foreign bodies do not cast a shadow on the roentgenogram. The physical signs and symptoms vary according to the composition, form, shape and size of the foreign body. A foreign body should be expected if the following conditions are present: an unexplained leukocytosis; localized symptoms in one lung that do not clear up under treatment; absence of tubercle bacilli in the sputum, and a gradual failure in weight and strength. There are no contraindications to bronchoscopy except weakness in the patient, and if this is present the individual should be given time to rally. Bronchoscopy should be performed as soon as possible after the entrance of the foreign body. Children do not require the administration of an anesthetic for the performing of bronchoscopy. The asthmatoid wheeze is a symptom of considerable importance.

Lactose, Fat and Protein Content of Woman's Milk

DR. FRITZ B. TALBOT, Boston: Investigations on the composition of woman's milk at different stages of lactation, accurately quantitated by newer chemical methods, show that the average amount of lactose in sixty samples of breast milk was 7.19 per cent., with the general tendency for the strength of the lactose to increase throughout the period of lactation. The percentage of fat in the milk of different women varied within wide limits, the lowest mixed milk being 1.5 per cent. and the highest 9.9 per cent. The average amount in the mixed samples was 3 per cent. The average amount of fat in thirty-five samples taken only from wet-nurses was 4.18. The percentage of fat depends more on how completely the breasts are drained and the amount of the late milk which gets into the sample than on the stage of lactation. There is a general tendency for the amount of protein to diminish as lactation progresses. The variation in the percentage of lactose from the beginning to the end of nursing rarely exceeded 1 per cent. The variation in the percentage of fat was greater, but, as a rule, it was less than 4 per cent. The percentage of protein rarely varied more than a few tenths of 1 per cent. and was sometimes lower after nursing and sometimes higher. The milk from the right and left breast of the same woman taken at about the same time tends to have about the same composition, but occasionally a wide variation is found. Milk taken at three hour periods during the day showed that as the day went on the volume of milk had a tendency to diminish. The percentage of fat was found to be higher after midday as a rule. The variation in the amount of lactose and protein, however, was very slight.

DISCUSSION

DR. L. EMMETT HOLT, New York: The figures Dr. Talbot has given for lactose are about what we have found in our laboratory. Many disturbances of digestion attributed to fat are in reality due to sugar. A baby may be gaining in weight and yet have a diarrhea due to the volatile fatty acids caused by sugar. Clinically the way to handle these cases is to dilute the milk and change the frequency of feeding. In such cases, examination of the stools may reveal the presence of fat; this leads to the erroneous assumption that it is the fat in the diet that is responsible for the trouble, whereas the stools contain fat because the fermentation of the sugar causes diarrhea and interferes with the digestion and absorption of fat. We must get away from the idea that breast milk always contains 7 per cent. of sugar or less, and we must learn that many disturbances of digestion may be attributed to sugar.

DR. DE WITT H. SHERMAN, Buffalo: If the protein content of the milk bears no relation to the high carbohydrate content, would it not be possible to overcome the conditions caused by a high percentage of sugar by the addition of some powdered protein preparation, thus changing the ratio of the food elements?

DR. FRITZ B. TALBOT, Boston: Children in the later stages of lactation who were getting 8 per cent. lactose were without watery stools, and we have fed this amount of sugar in the form of lactose and glucose without causing disturbance; so we have concluded that this is a normal ratio for this period of lactation. As to Dr. Sherman's question, we feel that the way to deal with sugar fermentation is to reduce the amount of sugar and that will stop the diarrhea.

Pathogenesis of Certain Nutritional Disorders

DR. W. MCKIM MARRIOTT, St. Louis: In the severe and acute toxic state observed in infants who have suffered from a severe watery diarrhea, the trouble has been attributed to "alimentary intoxication" because the administration of food resulted in an increase of all the symptoms. A more rational view is that the giving of food, especially easily fermentable carbohydrate, leads to increased water loss from the body by way of the bowel, and that the symptoms may be referred entirely to water loss. The blood plasma of infants suffering from this condition was invariably concentrated. The protein of the blood serum of normal infants averaged 6 per cent.; in those desiccated as the result of diarrhea, it might rise as high as 9 or 10 per cent. This desiccation explains the great loss in weight in these children. Decrease in blood volume diminishes volume flow and results in acidosis, and in addition there is a retention of acids in the body through failure of excretion by the kidneys, since renal activity is greatly decreased by concentration of the blood and poor volume flow. Dehydration of the blood results in a disturbance of the heat regulatory mechanism, and fever occurs. The term "anhydremia" or "anhydremic intoxication" is accurately descriptive of the condition, and is preferable to the undesirable term of Finkelstein, "alimentary intoxication." Anhydremia occurs from other causes than diarrhea, as diminished fluid intake, or vomiting, fever or high external temperatures. Whatever the cause, the treatment is the same. Fluid in large amounts must be administered. The usual methods are often ineffective, and the intraperitoneal injections have to be given. A small infant may receive as much as 2,400 c.c. of fluid in twenty-four hours. The intravenous injection of 10 per

cent. glucose solution at frequent intervals is often a valuable adjunct to the saline injections. Marasmus is analogous to anhydremia, but is the result of insufficient food, whereas anhydremia is the result of insufficient water. In this condition there is a diminution in the blood protein, and the volume flow is also decreased, but not to such an extent as in anhydremia. The obvious treatment of these athreptic infants is the administration of considerable amounts of food. The best results in feeding in this type of cases has been obtained with whole lactic acid milk to which a mixture of carbohydrates is added, the most suitable carbohydrates being dextrin and glucose; maltose also is serviceable. "Corn syrup" is such a mixture and has proved most effective in our hands. Acacia injections are an adjunct but not a substitute for food.

DISCUSSION

DR. OSCAR M. SCHLOSS, New York: Pediatric literature contains many references to the digestibility of fat, protein and carbohydrate, but very little is said about water. A proper proportion of water is most important, as Dr. Marriott has shown. These children said to be suffering from alimentary intoxication are always in a state of dehydration. I have in a number of instances seen a marked acidosis disappear with the administration of a sufficient amount of water, without the use of sodium bicarbonate. The explanation is that given by Dr. Marriott.

DR. I. A. ABT, Chicago: Many attempts have been made to classify intestinal disorders, both by clinicians and by bacteriologists, and we all know how futile such attempts have been. Now the chemists and the pathologists are trying their hand and I hope they will be successful. The most valuable classification we have is based on food disturbance. It seems that by noting the effects of certain foods in health and disease, the most important basis for the classification of nutritional disturbances would be furnished. Dr. Marriott has not referred to this side of the question; and while he has made an important contribution to the chemistry and pathology of these conditions, the important question is how to prevent the occurrence of a pathologic condition.

DR. MCKIM MARRIOTT, St. Louis: I made no attempt to discuss the etiology of diarrhea. I feel that the prophylaxis of these underlying conditions is the prophylaxis of diarrhea, which we consider as a local condition in the intestinal tract, and merely the end-result produced by any cause at all.

Study of Relationship of Convulsions in Infancy and Childhood to Epilepsy

DR. JOHN LOVETT MORSE, Boston: One hundred and seven persons whose primary complaint was convulsions were studied. No cases were included in which there were any evidences of acute or chronic cerebral disease. The objects of the study were to determine what proportion of the children, otherwise perfectly normal, having convulsions had epilepsy or developed it later, and to find out if there was anything in the history or in the manner of the development of convulsions to show whether or not they were manifestations of epilepsy, or whether they would be followed by or develop epilepsy later. Ten of the children showed spasmophilia. In all these the convulsions ceased, but one of the babies became feebleminded. It would seem that convulsions which occurred in babies with spasmophilia and which were presumably manifestations of spasmophilia were not likely to lead to the development of epilepsy later. In three instances the convulsions occurred in the course of whooping cough, and one of these children developed epilepsy later. Convulsions occurring in the course of whooping cough must, therefore, be regarded seriously. There were thirty-nine cases in which there was a single convulsion at the onset of some acute disease or with an attack of acute indigestion. Two of these children became epileptic and feebleminded; a third had petit mal, and a fourth might or might not be epileptic. There were fifty-five cases in which there had been repeated convulsions during a considerable period, and in which there had been repeated attacks suggestive of petit mal. Taking seven years as an arbitrary standard, only twenty-one of these could be considered normal at present. It has been impossible to tell from the nature of the early attacks as to the nature of the attacks when epilepsy develops later.

Epilepsy is far more likely to develop when the cause of the attacks is apparently an injury or severe labor, than when the apparent cause is a disturbance in the digestive tract. The longer the attacks have persisted, the more probable is the diagnosis of epilepsy. There is no way to determine immediately when a baby or child has a convulsion, or repeated convulsions, or repeated attacks suggesting petit mal, whether or not it has epilepsy or will develop it later.

DISCUSSION

DR. HENRY KOPLIK, New York: In the main I agree with Dr. Morse. Usually the application of the electrical test will determine whether or not a baby is a true spasmophiliac. In the vast majority of spasmophiliacs, epilepsy does not occur later in life. One must be very cautious in making a diagnosis of epilepsy simply because a child has a few convulsions if the child is otherwise normal. It is well to remember that spasmophilia may occur later in childhood. Unless there is a family history of epilepsy, one should be very careful about making a diagnosis of epilepsy during the early years of a child's life.

DR. L. R. DE BUYS, New Orleans: Would you group children who have spells of "holding the breath" as spasmophiliacs? Have you met any children of that sort who have developed epilepsy later?

DR. J. P. CROZER GRIFFITH, Philadelphia: It is practically impossible early in life to make the diagnosis of epilepsy. In the new-born, convulsions may be due to birth trauma and this may result in epilepsy later. Convulsions due to indigestion are not likely to result in epilepsy.

DR. HENRY HEIMAN, New York: I have seen children develop spasms, coma and convulsions five or six days after birth. In such cases there may be a venous apoplexy due to injury at the time of birth, which has resulted in the blood oozing from the cortical area. In such a condition the results will depend on how much of the blood clot is absorbed and how much organizes. The early treatment of spasmophilia may have an influence in the prevention of epilepsy.

DR. L. EMMETT HOLT, New York: Dr. Morse's conclusions are borne out by my experiences, namely, that a large number of children whom we expect to have epilepsy do not have it. The general practitioner and the neurologist are more likely to regard these children as prone to have epilepsy than is the pediatrician, because the pediatrician sees convulsions so often, and the great majority of the children who have had convulsions do not have epilepsy later. Recurring convulsions, with a sharp rise of temperature even if there is not much indigestion present, are not serious in relation to epilepsy; but when babies develop convulsions without a rise of temperature and without assignable cause, they should be regarded with suspicion. Dr. Morse's statement in regard to the relation of the convulsions of whooping cough to epilepsy were based on insufficient data. Unless there is some underlying peculiarity of the nervous system, epilepsy is not likely to follow the convulsions of whooping cough. One should be guarded in making a prognosis of epilepsy.

DR. SAMUEL S. ADAMS, Washington, D. C.: My conclusions on this subject are about the same as those of Dr. Morse. The most important point is to avoid casting the stigma of epilepsy on a child. In cases of convulsions during whooping cough, one should be cautious in making a diagnosis of epilepsy. Many of these cases of convulsions in childhood have some of the appearances of epilepsy; but I have always made it a point to teach my students to be very careful about calling them epilepsy. In some children the onset of an infectious disease is ushered in by convulsions; but after they have passed the period of infectious diseases, these children have no more convulsions.

DR. HENRY L. K. SHAW, Albany, N. Y.: There is a tendency among the laity to take the position: "Once an epileptic, always an epileptic." I have had several children

with undoubted epilepsy who to all intents and purposes have recovered.

Dr. Henry F. Helmholz, Chicago: I would like to suggest the possibility that certain acute conditions, particularly gastro-intestinal disturbances, may be a factor in changing a latent spasmophilia into an active one. It seems to me that the main point to be emphasized is that if there is a rise of temperature at the onset of illness, convulsions associated with it are not of great importance so far as the diagnosis of epilepsy is concerned.

Dr. Fritz B. Talbot, Boston: In considering this whole question the point should be emphasized that we are dealing with symptoms and not with a disease. If this symptom is due to spasmophilia, we would expect to find some change in the blood calcium. We have determined the blood calcium in a small number of spasmophiliacs and have found it lowered.

Dr. J. L. Morse, Boston: I have never considered breath holding as a symptom of spasmophilia. As to the birth hemorrhages, I have omitted all cases in which there were signs of injury to the brain. In a number of cases in which we have been asked to make a diagnosis as to whether or not epilepsy is present, if the convulsions have been present over a long period we make a lumbar puncture, a Wassermann test, examine the feces and urine, and give the child a thorough physical examination. We then follow up the cases in which we find nothing to account for the convulsions.

(To be continued)

AMERICAN GYNECOLOGICAL SOCIETY

Forty-Fourth Annual Meeting, held at Atlantic City, N. J., June 14-17, 1919

The President, Dr. Franklin H. Martin, Chicago, in the Chair

Toxic Effect of Fibroid Tumors of Uterus

Dr. R. R. Huggins, Pittsburgh: In the absence of other symptoms, it has been suggested that the absorption of toxins incident to the growth of fibroid tumors may account for certain changes in the heart muscles, which occur in many cases. The frequency of nervous symptoms, the relatively large number of cases of infection of the kidney secondary even to small fibroids, all point strongly in favor of such a theory. It is the consensus of opinion that heart changes are present in from 40 to 50 per cent. of the cases.

Complications of Uterine Myomas

Dr. Edward E. Montgomery, Philadelphia: Among the complications are nutritive disturbances. The enlarged and irregularly developed uterus, to accommodate itself to the contour of the pelvis, rotates on its vertical axis obstructing the return of blood through the veins, while the more rigid arteries continue to deliver the current. Edema and partial or complete necrosis may follow. Pregnancy may lead to such rapid growth of the tumor as to necessitate immediate resort to surgery. A subserous growth with pregnancy may be pressed between the developing uterus and the bony or parietal wall, arresting its circulation. On the right side, it simulates appendicitis. In one case it caused abortion and subsequently necessitated hysterectomy. Myomas encroaching on the uterine canal increase the danger of infection. Tubal infection, ovarian hematoma, pyuria and sacculated kidney are sometimes complications.

Study of Frozen Sections of Pelvis, with Description of an Operation for Pelvic Prolapse

Dr. Alfred Baker Spalding, San Francisco: The pelvis of a woman 32 years of age, a nullipara, was cut by frozen section into four segments. The surfaces of the segments were photographed and the pelvic fascia outlined. The uterus can be seen hung as in a swing by the paracervical tissue which is intimately attached to the pelvic fascia, the arcus tendineus of which gives strong support to the bladder, vagina and rectum. The levator ani muscles and fascia give support from below and bring the lower part of the vagina and rectum toward the symphysis. The operation I perform consists in dissecting free the fascia in the anterior vaginal wall to the arcus tendineus and overlapping, as described by Rawls. Amputation of the cervix is done, together with placing on either side of the cervix two deep sutures to control hemorrhage. The peritoneum is opened below the bladder and a subtotal vaginal hysterectomy is done, attaching the cervical stump to the sacro-uterine and severed broad ligaments. The round ligaments are drawn through the cervical canal and sutured on the vaginal surface. With rectal prolapse the rectum is supported by operations described by Ward, Studdiford and others.

Unique Diffuse Uterine Tumor: Adenomyoma with Stroma But No Glands

Dr. DeWitt B. Casler, Baltimore: A panhysterectomy and a right salpingo-oophorectomy were done on a woman 39 years of age for a supposed myoma of the uterus, and a metrorrhagia present for one year. The gross specimen was found to have a large, reddish polyp filling the cavity, while the walls of the uterus presented small, comedo-like masses, standing out prominently above the cut surface on pressure. Sections showed an almost total absence of uterine glands; but finger-like masses of interglandular stroma, dividing the uterine muscle into a fine meshwork, were seen extending as far as the peritoneal surface. Following this operation, the patient gave a history of regular menstruation, lasting one day each month for four years. At a second operation a cystic tumor of the left ovary was removed. This was found to contain many reddish polypi resembling in appearance the uterine specimen previously removed and made up almost entirely of uterine tissue, glands, stroma and apparently normal uterine mucous membrane.

Elective Cesarean Section

Dr. Edward P. Davis, Philadelphia: Elective operation is justifiable only when the conditions present are such that any other procedure would be much more dangerous for mother and child. Elective section cannot be a frequent operation. It is justified in physiologic incompetence for labor, in some abnormal positions and presentations, in cases of repeated overgrowth of the child, and in cases in which previous labors have been dangerous.

Conservative Treatment in Certain Cases of Placenta Praevia

Dr. George W. Kosmak, New York: In the case of a primipara presenting a rigid and only slightly dilated cervix and the probability of a central placenta praevia, with the child at or near term and still in good condition, the amount of bleeding not having been extreme, there is no question that abdominal cesarean section offers the best method of delivery for both mother and fetus. The large majority of cases are outside of this group, however; only a portion of the placenta impinges on the region of the internal os or the lower uterine segment, so that hemorrhage of any extent results only after the cervix has become thoroughly softened and is dilated. Nevertheless, even in this group the amount of bleeding may be sudden and excessive, especially as the lower uterine segment in multiparas, in whom we most often find this abnormality, is thoroughly softened and separated easily from the placenta.

Control of the hemorrhage during the process of dilatation remains the important indication, and this can be made most effectively by the extra-ovular introduction of the bag, a method described and adopted by Dr. E. B. Cragin. As an emergency measure, it is much superior to the intra-ovular introduction of the bag because less harm is done by hospital interns, for example, than if the perforation of the placenta with a Braxton-Hicks version or intra-ovular introduction of the bag is carried out.

Premature Separation of Normally Implanted Placenta

Dr. Arthur H. Morse, New Haven, Conn.: Ligation of the uterine veins in pregnant rabbits reproduces lesions in the uterus identical with those in women suffering from premature separation of the placenta. Similar lesions in rabbits result from constriction of the vessels when the uterine

horn is rotated. Premature separation of the placenta in women also probably depends on an acute disturbance of the uterine circulation.

Nutrition of Fetus

DR. J. MORRIS SLEMONS, New Haven, Conn.: No diet is specifically adapted to the state of pregnancy; the prospective mother may exercise the same freedom in the selection of food as any one else. She should select what will agree with her and avoid that which she cannot digest and assimilate. In the main, personal experience must guide every one as to what to eat, and most women follow the dictates of appetite as safely after they become pregnant as they did before.

Value of Repeated Small Blood Transfusions in Blood Stream Infections

DR. JOHN OSBORN POLAK, Brooklyn: After the bacteria have gained entrance to the blood stream, the cellular elements of the blood are rapidly destroyed. The heart, liver, spleen and kidneys show definite pathology, and acidosis develops. Small repeated blood transfusions increase the cellular elements, stimulate resistance and raise the blood pressure, hence adding to the natural defense.

Age Distribution and Age Incidence in Cancer of Uterus

DR. REUBEN PETERSON, Ann Arbor, Mich.: Between the ages of 35 and 65 occurs 82 per cent. of uterine cancer. Uterine carcinoma below the age of 20 is exceedingly rare, but it does occur in an appreciable percentage of persons between 20 and 25. Adenocarcinoma of the fundus is not a disease of early life, there being in my series only three women out of ninety-four below the age of 35. From 10 to 15 per cent. of uterine carcinomas are located in the fundus. In contradistinction to carcinoma of the fundus, 23.5 per cent. of squamous cell carcinoma of the cervix is found in patients under 40. Practically 50 per cent. of 369 cases of squamous cell carcinoma of the cervix occurred between the ages of 40 and 55. The maximum age incidence for carcinoma of the uterus is at age period 55 to 60; it declines rapidly from this age period to the period 70 to 75. After each age period of greatest carcinoma incidence is reached there is a sharp decrease in incidence, demonstrating the incorrectness of the statement that the age incidence of carcinoma increases with the age period.

Radium Treatment of Uterine Cancer

DR. HAROLD BAILEY, New York: Practically all cases that have a complete radiation of the local lesion and the lymphatic and other involved tissue in the parametrium, pass through a period of improvement. In all but the more advanced conditions this improvement consists of a disappearance of the ulceration, a lessening or entire disappearance of the discharge, a gain in weight, and general improvement of health.

After a longer or shorter time of well-being following the treatment, many patients have further development of cancerous tissue behind the vault of the vagina. In the effect to save these patients that have a retrogression after six or eight months, I have pushed the radium treatment of the parametrium, both by vaginal and by surface radiation, to the highest limits of safety, and have thereby caused in many who now appear to be free from cancer various types of pelvic sclerosis, both mild and severe. I have felt that it was wise to recede somewhat from the massive dose given by the bomb applicator. This dose now is actually in the neighborhood of three fourths of the maximum. The method in use permits of the entire treatment being given in a forty-eight-hour period, and with only moderate discomfort to the patient. The local slough and signs of irritation in the vault of the vagina, seen so frequently in using the older method, are now lacking in most of the cases. From our results in the uterine body cancers, it would appear to be necessary to remove the uterus after a preliminary radiation, or when this is inadvisable to radiate the entire pelvis as completely as is done with a cervical tumor. The results in cases of recurrent cancer following a hysterectomy are very promising. It should be understood that it is as important to radiate these cases immediately after operation as it is to operate early in the course of the disease. So great has been the palliation from the radium that it may be said that no uterine cancer case receives proper treatment without thorough radiation of the tissues of the pelvis.

Tumors of Bladder in Women: Diagnosis and Treatment

DR. HOWARD A. KELLY, Baltimore: It is very important to utilize the natural landmarks as well as an artificial division into hemispheres. Using the end of the speculum as a measure and these landmarks, the first step is to plot out all areas of disease and note them on a simple chart. Malignancy in bladder tumors is not always to be determined from the microscopic standpoint. Some tumors which are classified as malignant by the pathologist are clinically benign and vice versa. An ulcerated and infiltrated base is the clinical test of malignancy. The treatment is occasionally by excision, but, as a rule, by fulguration and radium. Many patients have apparently been cured, even those who have tumors which are malignant and infiltrative.

Are the Operative Procedures Done for Dysmenorrhea and Sterility Justifiable in the Light of Developmental Study?

DR. FREDERICK C. HOLDEN, Brooklyn: Operative procedures alone give a small percentage of successes and sometimes add a troublesome pathologic condition of the genital organs to the syndrome of dysmenorrhea and sterility. The only intelligent method of studying the activity of the spermatozoa is in their relation to the female secretions. Further experience with endocrines will tend to clarify our present position in regard to the treatment of dysmenorrhea and sterility.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS

Eleventh Triennial Session, held at Atlantic City, N. J., June 16 and 17, 1919

The President, DR. SIMON FLEXNER, New York, in the Chair

The Surgical Aspects of Reconstruction

DR. JOHN M. T. FINNEY, Baltimore: Surgical reconstruction comes under three main heads: (1) prophylaxis, (2) plastic and reconstructional measures, and (3) prosthesis. Two classes of cases will in future be noted, the unfortunate class, the "unpreventable deformities," the irreducible minimum, that, owing to nature of injury, loss of substance, etc., will remain as an unavoidable consequence of war; and the "preventable deformities." Such cases include deformities and disabilities from malunited fractures, osteomyelitis from neglected infections, paralyses from divided nerves (possibly due to unwise débridement), contractures from scar tissue, etc. In modern warfare a small percentage of fatal casualties must result; a much larger number of cases of complete recoveries will be found, and the balance of injuries will result in more or less permanent disability, these latter varying with the circumstances under which they were received and the treatment administered.

A point of great importance is the part played by transportation in modern warfare. If the ambulance can deliver the patients promptly and in good condition to the stations in the rear, the surgeon has to deal only with the trauma presented; if, however, delay occurs in receiving the wounded, the problem then is primarily one of infection and is infinitely more serious.

In Lyons, in 1914, the first actual training school for invalid soldiers was established, although sporadic attempts had previously been made in Belgium, Russia, Great Britain and France. This idea gained favor rapidly and has developed to such an extent that now the disabled soldier has the opportunity to again become an independent, self-supporting member of society. Prevention is better than cure. The military surgeon has two very distinct duties: (1) to minimize, or prevent, if possible, deformity and disability; (2) to return the disabled soldier to the line in the shortest possible

time. In the early days of the war attention to proper shoeing and the building up of men so as to overcome minor ailments were important points in relieving the hospitals of many cases; and much material was thus early reconstructed and added to the man power of the army. Proper standardization and application of splints was found also to be an enormous factor in saving loss of life and preventing disability.

The venereal disease problem, which at first bid fair to be a very large factor in loss of man power, was dealt with in characteristic American fashion, in spite of opposition of the French (and, to some extent, the British). The prevention of waste of efficiency was an end to which all strove, and the establishment of surgical laboratories, where courses in life saving, blood transfusion, and the physiology and treatment of shock were offered, was a powerful means to this end. Shock teams, composed of physicians and even dentists, were used to economize the services of surgeons.

The number of incapacitated from the war have been great, but they are small compared with the constant stream of injured constantly pouring forth from the myriad of industrial establishments throughout the world, and methods to make the experiences of the war apply to the salvage of civilians are already being considered. The early inauguration of reeducational measures, the maintenance of a stimulating environment, the determination of the man's fitness for any given vocation must be given due consideration. The economic value of not over filling certain trades, and the limited demand for certain kinds of labor should be taken into account. The training of our disabled is simply a means to an end, the end being to equip men for their whole future, to make them self-supporting, self-respecting citizens, capable of rendering continuous service for the rest of their lives. Society is under a moral obligation to provide suitable employment of a permanent character. Reeducation courses may be given in a variety of ways and places, in hospital centers and convalescent homes, technical schools and colleges, agricultural institutions, private workshops and factories.

The Neurologic Aspects of Reconstruction

Dr. Harvey Cushing, Boston: Reconstruction, like conservation, is a useful word, but it may be greatly overworked and it should include later treatment. The question of reconstruction is involved in what our hospitals are attempting to do for their patients. We see the same defects in civilian hospital results, especially in regard to the difficult by-paths of medicine which deal with psychology. Less is known of the disorders of the nervous system than of any other part of the body. The mental hygienist and the neurologist have raised a small voice which has been lost in the general uproar of reconstruction. The stress of life falls heaviest on the central nervous system, and in times of war this strain is increased; yet we must remember that in war time sane minds are even more necessary than sound bodies. An effort was made during the draft to comb out the neuropathics, but in spite of this many were left who developed neuroses in the camps, and later in the field the numbers were added to, by means of subjection to the strain of high explosives. It was recognized that nervous disorders would represent the final sediment of war injuries, and those most difficult to treat. Thus, in 1918, a neurologic force was organized with a neurosurgical consultant. No figures are ready as yet, except comparative ones compiled by the French who compute that 25 per cent. of war disabilities represent neurologic problems. Cranial injuries represent 16 per cent. of battle wounds, being caused in the early days of the war by high explosives, and later by machine gun injuries. Patients with craniocerebral injuries did not stand transportation well, and special centers for their treatment had to be devised near the combat area.

In time of war the registration and evacuation of the wounded are paramount problems; research does not thrive within the sound of battle and follow up studies were difficult. If notes were sent on, they rarely reached their destination. Just as there were men in the lines who had never fired a rifle, there were surgeons in the service who had never seen a war wound, but an effort was made to secure for each hospital one neurosurgical team. Although some attempts at proper distribution of cases have been made, on the whole, there has been a distinct failure to place special cases where ability to treat them is available. Organization in this respect is falling lamentably short of its opportunities.

The Work of Physical Reconstruction as it Concerns Orthopedic Surgery

Dr. Joel E. Goldthwaite, Boston: Orthopedic surgery stands primarily for preservation of function in injured or diseased parts, or for restoration of function in parts which have been previously injured or diseased. In England Sir Robert Jones was assigned to the care of these cases. It was found necessary that the functional reconstruction work should be carried far forward, in fact right up to the trenches. Thus responsibility was assumed for the care of the individual as soon as the injury was received. Orthopedic surgery was developed in conjunction with general surgery to avoid overlapping of effort. The work of the orthopedic surgeon in the early months of the war consisted largely in training recruits so that elements of weakness and strain would be eliminated. Careful training and principles of posture were instilled, with training by squad drill, bayonet drill, route marching and rest or play periods interposed. Men with painful feet were taught to stand straighter, to carry themselves more springily, and in extreme flatfoot cases the raising of the heel of the shoe and the use of the figure of eight ankle strap was used with great success. Foot plates were not used at all in the A. E. F.

The treatment of actual disease and injury was planned from the beginning with the ultimate result in mind, so that as little as possible of loss of tissue, and as much of ultimate function should ensue. Many times the original injury caused little general shock, and as long as the man lay on the battle field he was in good general condition and could easily have stood operation. The jar of removing him 2 or 3 miles to a dressing station was often so great that shock occurred, and even death, before the station was reached. If, therefore, the man could be splinted properly before he was moved at all, he could be transported without shock or harm. Splints were standardized by a special board in the summer of 1917, and eight selected types were chosen in regard to their simplicity and efficiency. Medical officers and stretcher bearers were instructed in the use of these splints so as to apply them with the greatest possible advantage. The mortality previous to the battle of Arras in getting the wounded to the rear was sometimes as high as 80 per cent. With nothing more than the proper standardization and application of splinting, this figure was brought down to 30 per cent. So efficient did the stretcher bearers become in the application of splints that many of them were able to apply the Thomas traction splint in two minutes.

Transportation thus became a satisfactory procedure and in many cases of long sluggish infection, the vibration of the train stimulated circulation and improved the general condition, aided perhaps by the psychic stimulus to the soldier of being directed towards home. Splinting has not only been of use in transportation, but in the preservation of position while early attempts at movement of the part were started. This was especially true in the difficult cases of gun shot wounds of the hand. Proper splinting of the parts has enabled these men to get at work, either in the wards or workshop, so that not only has healing of the wound been hastened, but atrophy prevented and functional restoration been obtained in a minimum of time. The great increase in the number of wounded and consequent overcrowding of hospitals in France, made it essential that many men be transported overseas to be cared for in this country. Few, if any, men have been harmed by transportation, and many are living today because of the stimulus of the thought of homecoming. There is no doubt that the trained orthopedic surgeon found an important place in the army organization. The ultimate test put by the army was that of function. The corrective workshop, the employment of bedside occupations have all had their places in functional development. The employment of reconstruction aides, not only in remote rear hospitals, but with the army at the front, shows the develop-

ment of the idea of functional reconstruction. Occupational therapy has come to be recognized as of as much importance in certain stages of the individual's recovery, as nursing, or any other detail of medical or surgical care.

DISCUSSION

DR. DEAN D. LEWIS, Chicago: At the beginning of the war we were accustomed to regard these different units as separate and distinct. The evacuation hospital did the gross surgery and then sent the man back to the base; then he could either be sent further back, or else be returned to his division. Reconstructive surgery was thought of as reserved for the general hospitals at home. That was a false idea; reconstructive surgery should begin as far forward as possible and the place for the consultant is at the evacuation hospital. His services must not be wasted as those of a transportation agent, but he must be an operating surgeon with a staff under his absolute control. The war has taught us much about the treatment of injuries in civil life; osteomyelitis could often have been avoided if débridement had been done more widely. Another point is that we must have sufficient soft parts to fill the gaps. How long shall these men stay in hospital? They must stay there until they have received their maximal degree of improvement, and until they are fitted to make a living for themselves.

DR. NATHANIEL ALLISON, St. Louis: The surgery of the forward area of the army gave us several very useful lessons for civil surgery. If it is possible to prevent shock by proper splinting of fractures, this is one of the lessons we have to carry to civil life. We soon realized that there was less shock in the ordinary fracture if the man was splinted where he was injured. Men were apt to die from shock in the front area, and this was especially true in cases of fractured femur. We found that by pushing the Thomas splint as far to the front area as possible we did more to prevent shock than by any other means. Damage done to muscles and vessels by fragments of bone, and also pain, were very much lessened. We used to teach the stretcher bearers three things: proper splinting to fix the part; the use of dressings to stop loss of blood, and the necessity of a blanket to keep the patient warm. We very rarely used the tourniquet to stop hemorrhage. We can apply these principles to civil life with great advantage. Another interesting observation was that shock was lessened by reassurance. The wounded man when he was picked up was either frightened, or he was very angry, usually the latter. The mental state was improved and quieted by reassurance. We gave the man a hot drink, the proper splint was applied, the hemorrhage was controlled, and a warm cover given. Under these conditions shock usually did not manifest itself.

DR. GEORGE E. BREWER, New York: In regard to the prevention of shock: There is absolutely no question but that the proper and timely application of splints, as soon as possible after the wound is received, is essential, particularly so in cases of fractures of the long bones and compound fractures associated with laceration. This one factor did more to prevent shock than anything else. It is to the everlasting credit of the American Army corps that it was insisted on from the very beginning that the Sanitary Corps men should be trained to apply splints to give the maximal amount of protection.

The Medical Aspects of Reconstruction

DR. J. W. S. THAYER, Baltimore: Apart from the fundamental question of diagnosis the medical man finds himself confronted with two problems: (1) that of prophylaxis and (2) his duty to the patient during convalescence. In war time the value of convalescent care is put on its proper basis, in the reconstruction program. Most of the men treated medically clamored to be sent back to their organization; once hospitalized the men quickly lost morale, discipline and physical vigor, and many, especially the gassed cases, even developed psychoneuroses in the war hospitals, therefore it was found necessary to keep them as near the front as possible, to keep them from falling under the influence and surroundings of hospitalization.

The treatment of convalescents was carried on in camps, under expert training and physical supervision. A modified physical régime was adopted for the men under military status. Work, play, rest, recreation and amusements were all put into use as part of the general scheme. It was found that the psychic element was of importance, for those men who tired soon at drilling, could endure much more exertion in games. Classes were graded as to exercise and drill and the men supervised by an officer who had special cardiovascular training. This work was especially adapted to that class of cases known as effort syndrome. Often as many as 99 per cent. of these men were returned to duty. An endeavor was made in these camps to determine the average time needed for complete convalescence from infectious diseases.

Many of the men who were gassed or exhausted were sent to rest camps and replacement depots, where they recuperated and were returned to their divisions. Measures for the treatment of tuberculous soldiers were necessarily carried out in this country, where large sanatoriums have been established in suitable localities and the disease can be combated under the best possible conditions, with necessary hygienic and dietetic régime. War statistics in regard to the duration of convalescence have shown the need of convalescent departments in connection with large hospitals, in which every arrangement for the well-considered rehabilitation, mental and physical, of the convalescent, may be carried out. In this country the admirable arrangements in effect at General Hospital No. 9 at Lakewood, N. J., have demonstrated what systematic physical and mental training can do for that large body of individuals who are slightly below par.

Cardiac Phase of the War Neuroses

DR. A. E. COHN, New York: In 1871, Da Costa of Philadelphia described what he termed irritable heart of soldiers, which is identical with what has been observed in the present war. Da Costa included heavy accoutrements as a contributing factor. All observers have agreed as to the large numbers of these cases, called D. A. H. (disordered action of the heart) by the British. The circulatory derangement, however, provides opportunity for differences in interpretation of the phenomena. The latter may be observed in varying states, such as, for example, chronic cardiac disease, acute infectious diseases, hyperthyroidism or associated with the neuroses. Before the present war, owing largely to the influence of Da Costa, these cases were considered as being related to cardiovascular disease. There is no organic functional disease, however, and it remains to establish a connection between these symptoms and the neuroses. Patients usually present those states classed as anxiety neuroses and psychiatrists have interpreted them as cardiac manifestations of neurotic character. The relation of "anxiety states" to war is abundantly clear. Anticipation of its terrors was awakened in every recruit. The sights and sounds of actual warfare wore down the resistance of the most enduring. The constitutionally predisposed fell out here first. Those with slightly better endurance fell out in France. On the whole, those who reached France were superior. Another important point, indicating a neurotic origin, was that these symptoms were unknown in the severely wounded—those whose faces were turned away from the front. This was true of severely gassed and of prisoners of war. These men had done with war.

The prognosis of these conditions depends on their origin. If they are thyroid in nature, or dependent on cardiac abnormality, they will be identified with these conditions. If they are neurotic, suitable treatment will reestablish them. They may, however, if returned to the front, retard the work of their organization.

Treatment also depends on diagnosis. Da Costa put them to bed and treated them with drugs. This was not found beneficial in the present war. The system of Lewis—graduated exercise—was of signal benefit. Exercises by the drill sergeant, however, did not meet the needs of the situation, strength, in these cases, being a neurologic and not muscular function. The experience of the British in the treatment of these cases was made use of by the A. E. F. It was found that the convalescent camps should be separated from hospitals, by several miles. The camp atmosphere had to be

attractive, with well designed and landscaped grounds. The soldiers were kept on modified but strict discipline. They were instructed and taught to amuse themselves. This experience has an important application to civil life, where large numbers of these subnormal persons are to be met.

Reconstruction in Nervous and Mental Disease

Dr. Pearce Bailey, New York: This question of the control of nervous and mental disease has an important bearing on the health of the whole community. The war has taught us that these patients will be constantly returning to us unless necessary steps are taken to handle their cases. There is no machinery at present in this country which undertakes to provide for their care; very many of them no doubt have become adjusted to their original environment and are pretty much as they were before, but a very large number need special treatment. It is a problem of civil, rather than of military reconstruction. At least 72,000 young men of this type were rejected for service. Thus there is an enormous field in preventive medicine awaiting the neuropsychiatrist. The fact that such a vast number of young men have been found unfit to carry out their duties as social units, has a very serious social significance.

The army has done harm to this large proportion of people by taking them out of the adjustment they had formed for themselves in civil life. Army life does not build up neurotics and the potentially insane are apt to go insane all the quicker when subjected to its stress. Psychoneurotic states formed a higher percentage in army than in civil life. Perhaps among the causes that contributed most to the breakdown of the nervously unstable, separation from home was the chief factor. It was also somewhat of a paradox that cases that would have been considered most serious at home recovered more rapidly under military life. Restraint with these persons was found to be entirely unnecessary.

The care of the insane is really a civil problem. We must extend our system of state hospital mental clinics. These constitute a real prophylactic measure and they will be of use to the discharged soldiers who still need some mental help and supervision. The treatment of chronic or inveterate military cases was a distinct reconstructive problem.

The starting point in civil life in regard to reconstruction is without doubt in the schools. We can reclaim the school child, but the adult inmates of institutions we cannot reclaim. The educational departments of our states and municipalities are the most promising basis for a system of control of the menace of nervous and mental disease and criminality. They cannot be so constituted, however, unless the medical profession supervises their problems and supplies competent advisers and workers. We shall never get anywhere unless the medical profession stands behind this movement more heartily than it has done. We must be better represented in the neurologic work in our hospitals and a separate research institute is an essential need. The establishment of an independent foundation seems to be more or less a sine qua non for the firmer, broader and more scientific grasp of these subjects.

DISCUSSION

Dr. Francis W. Peabody, Boston: Dr. Cohn gave us a very clear account of the "irritable heart of soldiers." We used the results of his observation in France and combined them with our experience in General Hospital No. 9, in Lakewood, N. J., where there were excellent facilities for clinical investigation. We were interested to find that a large percentage of these men, apparently highly neurotic, were particularly sensitive to small doses of epinephrin. This would point to a hypersensitiveness of the sympathetic autonomic nervous system, but we do not know what the relation of cause and effect may be between this and the neurotic constitution. Two types of individuals were seen at Lakewood: (1) the normal individual who had broken down under the military stress; (2) constitutionally inferior individuals, in whom the symptoms were latent over a very long period of years, often dating back to childhood. This constituted the most important group. These men were not really a product of the war, but they became prominent when they entered into army life. There was an inherited nervous taint. Most of them were apt to regard themselves as being "not strong" or as having a "weak heart." In the army they broke down with the signs and symptoms of physical invalidism, partly from physical strain, but chiefly because they were unable to adapt themselves to the conditions of army life. In this particular group we noticed an actual decrease in strength of the skeletal muscles. Fifty per cent. were below normal. Graded physical exercise was important and it was found possible to double the actual physical strength of these men while there was also a considerable psychologic effect. Many of these men have gone back into civil life and are able to take their place as useful economic units, whether they were good soldiers or not.

The Physical and Mental Rehabilitation of Disabled Soldiers of the United States Army

Dr. Frank Billings, Chicago: The policy of physical reconstruction of disabled soldiers, later extended to disabled sailors and marines, was formulated in the office of the Surgeon-General in August, 1917. It was applied in seven hospitals early in 1918, and finally was approved by the War Department, July 29, 1918. This work is defined as continued treatment, carried to the fullest degree of maximum physical and functional restoration, consistent with the nature of the disability. To this end all known measures of modern medical and surgical management are applied. The educational program was important and comprehensive, embracing courses in technical, agricultural and commercial subjects. Many disabled soldiers who were qualified aided in the training of their fellow patients. Civilian women worked as reconstruction aides in giving courses in the arts and crafts and commercial studies. A director of sports, games, gymnastics and military drill supervised these branches, in cooperation with the American Red Cross, Y. M. C. A., K. of C., Jewish Welfare Board and Salavation Army. Special buildings, gardens and fields have been utilized for the purpose of training convalescents in workshop and academic courses and in agricultural pursuits. Equipment for shops, schools, physiotherapy, and gymnasiums has been supplied. Needful books have been furnished by the American Library Association.

Before the armistice was signed, approximately 10,000 disabled soldiers were returned from the A. E. F. to the United States. Following the armistice, the return of sick and injured was expedited, and from Nov. 11, 1918, to June 1, 1919, approximately 140,000 disabled soldiers have been returned to America. This naturally required additional hospitalization, and at the height of the influx, forty-seven reconstruction hospitals were functioning. At the present time forty-four general and base hospitals are carrying on this type of treatment. After July 1, 1919, the work of physical reconstruction will be concentrated in nineteen centers. The work of the educational personnel has been increased to meet the need. Since the armistice has been signed convalescent camps have been established in various parts of the countries and soldiers have been sent to the centers nearest their homes. Here they have received the final hardening and curative processes by means of setting-up exercise and military drill. The number of men so trained since the signing of the armistice totals 47,858 to the present date.

In spite of almost insurmountable difficulties it is believed that physical reconstruction of the soldier has been of the greatest value in maintaining discipline; promotion of morale; the diversion of the soldier's mind from his disability; the arousing of his interest in education which would overcome his handicap; and the physical and functional restoration of the patient. Often the patients have been enabled to take up a more lucrative profession than that which they held formerly and the men have been stimulated to take further training with the federal vocational board, after discharge from the army. This board has been actively cooperating all along in giving the necessary vocational guidance. The establishment of the measures of physical reconstruction in the treatment of disabled soldiers has been so beneficial that it will create a demand for the application of like measures in the treatment of patients in civilian hospitals in the country.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

May, 1919, **157**: No. 566

*Digitalis Therapy: Satisfactory Effects in Cardiac Cases with Regular Pulse Rate. H. A. Christian, Boston.—p. 593.
Mesothelioma of Both Suprarenals and Both Lungs, with Hemothorax. W. H. Harris, New Orleans.—p. 602.
*Epidemic of Typhoid at Hot Springs, N. C., Prison Barracks: 186 Cases. J. D. Dunham, Columbus, Ohio.—p. 608.
Some Medical Impressions of War. G. W. Norris, Philadelphia.—p. 628.
*Tests of Functional Capacity of Circulation. M. H. Kahn, New York. —p. 634.
*Left Apical Impairment in Mitral Stenosis. E. H. Goodman, Philadelphia and S. L. Cash, New York.—p. 652.
Biologic Conception of Neoplasms; Terminology and Clinical Significance. W. C. MacCarty, Rochester, Minn.—p. 657.
*Prognostic Value of Creatinine of Blood in Nephritis. V. C. Myers and J. A. Killian, New York.—p. 674.
Oculogyration and Lesion Causing Complete Bilateral Ophthalmoplegia. W. G. Spiller, Philadelphia.—p. 695.
Case of Diabetes Mellitus with Syphilis. J. W. Mitchell, Lakewood, N. J.—p. 700.

Digitalis Therapy.—A great deal of nonsense, in Christian's opinion, is written about digitalis that does not upset the stomach, and much effort appears to be used by pharmaceutical houses to prepare such forms of digitalis. Most of them do not cause nausea, he says, because they are weak forms of digitalis. The fad of fat-free digitalis is an excellent example of this wasted energy. Were this effort directed toward securing a potent active leaf, without which no good digitalis preparation is possible, far better results would obtain. The powdered leaf made freshly into pills is as satisfactory a form of digitalis as either tincture or infusion, and if the leaf is good, it is just as effective as digipuratum and digifolin, and far less expensive. Digitalis should be prescribed in weighed or measured amount, not by drops, and enough should be given of a reliable preparation (that means a good leaf as the starting point of the preparation) to produce a definite effect at least within four days; usually an effect is noted to begin in half this time. In Christian's experience in chronic myocarditis, most excellent results follow an adequate digitalis therapeusis, and there are no contraindications to its use, for even in those cases advanced beyond the bound of a therapeutic response no bad effects follow digitalis. Aortic insufficiency does not contraindicate digitalis and very excellent results follow the use of digitalis in hearts that are not fibrillating. Christian's observations confirm the findings of Mackenzie and Cohn and Fraser that the drug rarely slows the pulse, except in auricular fibrillation, until toxic symptoms are produced. He has frequently seen good results in chronic cardiac cases with edema in which there was no irregularity of the pulse or only an occasional extrasystole. Cases are cited.

Epidemic of Typhoid at Hot Springs, N. C.—A very complete analysis of these cases was made by Dunham. Four of the fifteen deaths (8.06 per cent. mortality) were caused by perforation. Pulmonary involvement was the terminal process in six cases. Incontinence of stool and urine occurred in thirty-five patients. Intestinal hemorrhage occurred to a marked degree in twenty-five patients, though blood was present in the stools in many more instances. The most interesting feature in the study of this epidemic arose in the diagnosis of six perforations. Not one case presented the classical symptom of sudden paroxysmal abdominal pain. Vomiting did not occur in any of the cases. One case presented the only incidence of appendicitis. Cholecystitis was a complication in three cases. Bronchitis was observed so frequently that this phenomenon may not be considered a complication but a most frequent symptom. Typhoid vaccination was given in many cases during the incubation period of the disease. The medical attendants were unable to observe any amelioration of the symptoms among such patients.

Tests of Functional Capacity of Circulation.—Comparative functional tests of the circulation were made at Camp Zachary Taylor in 233 cases, including the normal, the various tachycardias, sinus bradycardia, thyrotoxic conditions, neurocirculatory asthenia, etc. The characteristic finding in simple tachycardia, in compensated mitral regurgitation and in sinus bradycardia, was the absence of any effect on or only very slight increase of the pulse rate after exercise. In thyrotoxic heart the characteristic effects were marked instability of the pulse rate, with great increase after exercise, associated with an instability of the diastolic blood pressure. A similar effect, but less marked, was found in neurocirculatory asthenia. In the latter condition it was noted that the thrill disappears when the relationship of apex beat to chest wall is disturbed or distorted on auscultation. The tremogram is recorded as a differential point between neurocirculatory asthenia and thyrotoxic conditions. Hypertonicity of the heart muscle is the physiologic basis of the cardiac signs in neurocirculatory asthenia. Thyrotoxic conditions and nephritic hypertension lessen the functional circulatory capacity. Aortic regurgitation and congenital heart lesions gave fairly distinct features, but further studies along the lines indicated are suggested to establish the results in congenital heart.

Impairment in Mitral Stenosis.—The association of pulmonary signs in mitral stenosis, Goodman says, occurs frequently. Snappy quality of the first sound and systolic tap or shock on palpation, absence of hypertrophy of the left ventricle in the cases uncomplicated with insufficiency, presystolic thrill, presystolic murmur and accentuation of the second pulmonic sound establish the diagnosis. The history of rheumatic fever, chorea, tonsillitis and growing pains, when authentic, is an added evidence. Goodman urges that examination for these features should be made with the patient erect, recumbent (not omitting the examination with the patient lying on the abdomen) and before and after exercise test. Murmurs may be missed when the patient is erect and with the heart at rest, and may be very clearly heard when recumbent and with the heart beating more forcefully, as after exertion. Twenty-seven cases are cited by the author.

Blood Creatinin in Nephritis.—Observations on 100 cases of nephritis showing creatinin retention are recorded by Myers and Killian. Of these 100 patients, eighty-five had a creatinin content of over 5 mg. per hundred c.c. of blood, the figures ranging from 5.1 to 33.3 mg.; eighty of these eighty-five patients have died. Of the five remaining the condition of three is essentially unchanged, while two have recovered. These two patients showed only a temporary elevation of the blood creatinin. A considerable number of the eighty-five patients were able to be up and about and some showed decided clinical improvement. According to the authors the creatinin gave a better prognostic insight into these cases than either the blood urea or phenolsulphonephthalein tests, which were made simultaneously. It is their opinion that in advanced cases of nephritis the blood creatinin furnishes a more reliable prognosis than any other test.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

June, 1919, **79**, No. 498

Method for Demonstrating with the Hands the Mechanism of Labor and Various Types of Pelves. J. F. Moran, Washington.—p. 701.
*To What Extent Must we Depend on Microscopic Examination to Support Clinical Diagnosis of Ectopic Pregnancy? M. Caturani, New York.—p. 716.
*Analysis of 309 Cases of Ectopic Gestation in New York State Woman's Hospital. L. K. P. Farrar, New York.—p. 733.
Standardization of Surgery. J. W. Kennedy, Philadelphia.—p. 759.
Menopause: Analysis of Two Hundred Cases. C. C. Norris, Philadelphia.—p. 767.
Cesarean Section for Unusual Conditions. W. P. Conaway, Atlantic City.—p. 778.
Two Cases of Abdominal (Ectopic) Pregnancy Operated Near Term with Living Children. F. A. Dorman, New York.—p. 782.
Case of Sympus Apus. S. Chelliah, Colombo, Ceylon.—p. 786.

Clinical Diagnosis of Ectopic Pregnancy.—Out of 100 cases of specimens of tubes or adnexa removed after a clinical diagnosis of ectopic pregnancy and examined micro-

scopically by Caturani, only fifteen failed to produce positive microscopic evidence. The rupture of the tubes, ragged in appearance, typical of the erosion of the chorionic cells, is almost pathognomonic of ectopic pregnancy. In forty-two cases of rutpure, only one was negative.

Analysis of Ectopic Gestation.—From Farrar's study of these cases it appears that infection or mechanical alteration due to adhesions of the fallopian tube predisposes to ectopic gestation. The onset of symptoms or an acute attack occurs equally as often at the time of an expected period, or just after a normal period as it does when a period is overdue. Pain with, or without, bleeding is present in every case of ectopic gestation unless unruptured. Tearing, lancinating pain is not as common in ectopic gestation as pain of a cramplike or bearing-down character. Unusual, one sided pelvic pain when associated with evidences of peritoneal irritation and fainting warrant the diagnosis of ectopic gestation.

Boston Medical and Surgical Journal

June 26, 1919, **180**, No. 26

Medicolegal Phases, with Particular Reference to Tort Cases, Compensation and Malpractice Suits. H. H. Hartung, Boston.—p. 707.
Premature Separation of Placenta. P. Appleton, Providence, R. I. —p. 718.

Canadian Medical Association Journal, Toronto

June, 1919, **9**, No. 6

*Differentiation of Early Tuberculosis and Hyperthyroidism by Means of Epinephrin Test. N. C. Nicholson and E. Goetsch.—p. 481.
Typhoid Spine. W. Osler.—p. 490.
Functional Conception of Pathology as Basis for Diagnosis and Treatment of Heart Disease. W. S. Morrow.—p. 497.
*Use of Vaccine in Recent Epidemic of Influenza. F. T. Cadham. —p. 519.
Protein Milk Powder. A. Brown and I. F. MacLachlan.—p. 528.
Intestinal Obstruction and Its Relation to General Practitioner. W. A. Lewis.—p. 538.
Arthrodesis of Hip Joint and Indications. J. A. Nutter.—p. 548.

Differentiation of Early Tuberculosis and Hyperthyroidism by Epinephrin Test.—To support their contention, which is, that hyperthyroidism is responsible for the general symptoms usually attributed to tuberculosis in most of the cases where the presence of clinical tuberculosis is questionable and also where the tuberculous lesion is thought to be insufficiently active to account for the severity of the symptoms, Nicholson and Goetsch applied the epinephrin test, at first, to those patients in whom the diagnosis of tuberculosis was questionable, and later as a routine measure to all patients entering the Trudeau Sanatorium. Positive results in support of this view have been obtained. Of the eighteen cases belonging to the "clinical tuberculosis questionable" group, there were ten which reacted positively to the test, and eight which showed an entirely negative reaction. Out of sixteen "clinical tuberculosis inactive" cases, nine showed a positive response to the test. Of six cases in which there was a definitely but moderately active clinical tuberculosis, the reaction was negative in all.

Vaccine in Influenza.—Abstracted in The Journal, May 24, 1919, p. 1874.

Colorado Medicine, Denver

June, 1919, **16**, No. 6

Fractures of Tibia. W. Senger, Pueblo.—p. 133.
Dermatitis Seborrheica. G. P. Lingenfelter, Denver.—p. 142.
Use of Cautery. F. C. Buchtel, Denver.—p. 144.
Mesenteric Thrombosis; Review of Literature. L. I. Miller, Denver. —p. 148.

Indiana State Medical Association Journal, Fort Wayne

June 15, 1919, **12**, No. 6

Bacteriology and Pathology of Epidemic of Influenza. V. H. Moon, Indianapolis.—p. 149.
*Medical Treatment of Duodenal Ulcer: Special Reference to Treatment of Hemorrhage. F. W. Foxworthy, Indianapolis.—p. 152.
Focal Infections. C. C. Cotton, Elwood, Ind.—p. 158.
Headache as Symptom. J. G. Jones, Vincennes.—p. 160.

Treatment of Duodenal Ulcer.—The dietary treatment of duodenal ulcer is divided into five periods by Foxworthy: 1. The nutrient enema period, lasting from four to seven days. This should be begun at once, following diagnosis, or following hemorrhage. 2. The liquid, or albumin water period, from one to two weeks, commencing with the whites of two eggs in water, every three hours, and increasing gradually. Cream is used when eggs do not agree. 3. The semiliquid period, one week, in which the regular feedings of albumin water are kept up, substituting for certain feedings such food as creamed toast, potato soup, or purees. 4. The semisolid period, lasting one week, which is a prolongation of the semiliquid period, during which oatmeal, mashed potatoes, tapioca, custards, soft boiled or soft poached eggs are added to the dietary. During this period, the albumin water may be withdrawn safely, although at any indication of recurrence, the diet should drop back to the diet of the second period—albumin water only. 5. The solid food period, broiled meat patties, the meat ground very fine, and lean meat only, squab, breast of chicken, minced, following which the patient should be able to take the ordinary prescribed diet for ambulatory ulcer patients, which is a maximum of albumins and a minimum of starches and sugars.

Iowa State Medical Society Journal, Des Moines

June 15, 1919, **9**, No. 6

Medical Education in Iowa. D. S. Fairchild, Clinton.—p. 180.
Susceptibility and Resistance; A Medical Problem. K. Hansen, U. S. Army.—p. 187.
Syphilis. C. L. Barewald, Davenport.—p. 190.

Journal of Experimental Medicine, Baltimore

July, 1919, **30**, No. 1

*Etiology of Yellow Fever. IV. Acquired Immunity of Guinea-Pigs Against Leptospira Icteroides after Inoculation of Blood of Yellow Fever Patients. H. Noguchi, New York.—p. 1.
*Id. V. Properties of Blood Serum of Yellow Fever Patients in Relation to Leptospira Icteroides. H. Noguchi, New York.—p. 9.
*Id. VI. Cultivation, Morphology, Virulence and Biologic Properties of Leptospira Icteroides. H. Noguchi, New York.—p. 13.
*Growth Accessory Substances for Pathogenic Bacteria in Animal Tissues. I. J. Kligler, New York.—p. 31.
*Studies on Organ Transplantation. I. Transplantation of Thyroid with Intact Blood Supply. K. Kawamura, Rochester, Minn.—p. 45.
*Id. II. Transplantation of Spleen with Intact Blood Supply. K. Kawamura, Rochester, Minn.—p. 65.
Experimental Production in Dogs of Emphysema with Associated Asthmatic Syndrome by Means of Intratracheal Ball Valve. W. H. Harris and F. P. Chillingworth, New Orleans.—p. 75.

Etiology of Yellow Fever. IV.—The majority of guinea-pigs inoculated by Noguchi with the blood of yellow fever patients escaped a fatal infection. There were a number of instances in which the inoculation of yellow fever blood induced in these animals a temporary febrile reaction on the fourth or fifth day, followed in some cases by slight jaundice, but with a rapid return to normal. Most of these guinea-pigs when later inoculated with an organ emulsion of a passage strain of *Leptospira icteroides* resisted the infection. On the other hand, the animals which had previously been inoculated with the blood of malaria patients or normal guinea-pigs died of the typical experimental infection after being inoculated with the infectious organ emulsion.

Etiology of Yellow Fever. V.—The serum from a number of persons recovering from yellow fever in Guayaquil was studied by Noguchi with a strain of *Leptospira icteroides* derived from one of the yellow fever patients with a view to establishing its possible immunologic relationship. For this purpose the serum of convalescents was mixed either with an organ emulsion of a passage strain, or with a culture of the organism, and inoculated intraperitoneally into guinea-pigs. The Pfeiffer reaction was first studied, and then the animals were allowed to live until the controls, inoculated with the same emulsion or culture of *Leptospira icteroides* but without the serum, or with serum from patients suffering from other diseases than yellow fever, had died of the experimental infection with typical symptoms. A positive Pfeiffer phenomenon was observed in fifteen of the eighteen convalescent cases studied, or approximately 83 per cent. Serums from ten nonimmune soldiers and from two malaria patients gave uniformly negative results. Protection from an ultimate fatal infection was afforded some of the guinea-pigs which received the serum of yellow fever convalescents,

while the control animals succumbed to the infection with typical symptoms. In one instance, in which the serum was tested on the second and the tenth days of disease, a Pfeiffer reaction was demonstrated, as well as protective property against the infection, in the specimen from the tenth but not in that from the second day. From these observations of immunity reactions Noguchi concludes that it appears highly probable that *Leptospira icteroides* is etiologically related to yellow fever.

Etiology of Yellow Fever. VI.—On three occasions, that is, from three out of eleven cases of yellow fever, the *Leptospira icteroides* was directly cultivated by Noguchi. These three strains were found to induce the characteristic symptoms and lesions when tested on guinea-pigs. *Leptospira icteroides* was also obtained in pure culture from the blood of guinea-pigs which succumbed to infection after being inoculated with the blood or organ emulsions from patients suffering from yellow fever. These cultures also proved to be virulent when tested on susceptible animals. The morphologic characteristics and biologic properties of the organism are described in detail.

Growth Accessory Substances for Bacteria.—Kligler reports experiments bearing on (*a*) the effect of vitamins on the growth of a number of organisms pathogenic for man; (*b*) the distribution of these substances in animal tissues; and (*c*) the relative significance of the fat soluble A and water soluble B in the cultivation of these micro-organisms. At present there are few data bearing on these questions in relation to bacteria. Beef heart, goat's blood, rabbit and cat tissues, and human secretions were used. The effect of these extracts was tested by adding graded amounts to nutrient broth or agar, or to phosphate peptone agar and inoculating with small amounts of culture suspensions. The following organisms were tested: gonococcus, meningococcus (one para, one regular), pneumococcus Type I, *Streptococcus hemolyticus, B. diphtheriae, B. pertussis, B. influenzae.* The extracts, with few exceptions, influenced favorably the growth of all the bacteria studied, and the effect varied with the amount of extract added. Kligler expresses the belief that the substances in question belong to the class of so-called vitamins.

Organ Transplantation: Thyroid.—Kawamura transplanted the thyroid through blood vessel sutures because of the favorable restoration of the circulation of the gland by this method. The experiments on dogs showed that the thyroid which was autoplastically transplanted, by means of various methods of blood vessel anastomosis, could live in good condition and functionate favorably several months after the operation, even after the interruption of the circulation for one and one-half hours. They further showed that the circulation through the transplanted blood vessels as well as glands was as good as normal, and that permanent successful results of the homoplastic transplantation of the gland are as yet not possible.

Organ Transplantation: Spleen.—There are usually two trunks of both artery and vein to the spleen from the gastrosplenic vessels. One pair enters the spleen in its lesser (left) end and another almost in the middle. In these experiments the spleen was divided in two parts, corresponding to the stream district of these large branches, after the mattress sutures had been applied transversely on it. The half of the spleen which is nourished by the larger branches was used for the transplantation. The attached omentum was cut off after ligation. The splenic artery, vein and nerves were dissected and divided. The spleen was then removed, and wrapped up in a salt sponge. After a few minutes the spleen was replaced into the abdominal cavity, and its vessels were united as before, by end to end anastomosis. In one case an attempt was made to transplant the spleen into the neck. After the thyroid had been removed, the peripheral end of the splenic artery was united to the central end of the superior thyroid artery and the peripheral end of the splenic vein to the central end of the external jugular vein. In another case the spleen was transplanted into the renal vessels after nephrectomy. Most of the experiments were performed autoplastically, but in one instance the spleen from one animal was transplanted to another. The circulation in the spleen was reestablished between one and two hours after its extirpation. The dissected omentum was reunited, and in a few cases the nerves also were sutured. Several days after the operation the condition of the transplanted spleen was ascertained by laparotomy. When the transplantation was successful, the other intact half of the spleen was removed and immersed in a jar filled with 10 per cent. liquor formaldehydi for microscopic examination, and the animal was observed further. The results of the experiments immediately after operation were in all cases satisfactory. In spite of the interruption of the circulation from one to two hours after extirpation, the immediate circulation of blood through the transplanted spleen and blood vessels was favorable, but most of the spleen became necrotic or was entirely absorbed. The cause of this was the obstruction in the transplanted vessels, due to thrombosis. Seven autoplastic transplantations and one homoplastic transplantation of the spleen of dogs were made. One autotransplantation was successful, the gland being normal at the end of eighty-eight days.

Journal of Infectious Diseases, Chicago

July, 1919, **25**, No. 1

*Complement Fixation in Influenza. K. Howell and R. Anderson, Chicago.—p. 1.
*Bacteriology of Influenza and Bronchopneumonia. G. H. Dick and E. Murray, Chicago.—p. 6.
*Blood, Urine and Blood Pressure in Influenza. A. Levinson, Chicago.—p. 18.
*Bacteriology of Influenza. E. O. Jordan, Chicago.—p. 28.
Influenza of Surface Tension of Culture Medium on Growth of Bacteria. W. P. Larson, W. F. Cantwell and T. B. Hartzell, St. Paul.—p. 41.
Classification of Streptococci Based on Correlation of Results of Hemolytic, Fermentative and Precipitin Tests. W. H. Barnes, Berkeley.—p. 47.
Diphtheria at Hospital Center. M. Barron and G. H. Bigelow, Allerey, France.—p. 58.
Influenza in Three Chicago Groups. E. O. Jordan, D. B. Reed and E. B. Fink.—p. 74.

Complement Fixation in Influenza.—The outstanding feature of the work done by Howell and Anderson on complement fixation with influenza serum is the large number of positive results with certain strains of the viridans group of streptococci isolated from cases of influenza at Camp Meade and in Chicago. The evidence indicates that such organisms probably played an important part in the morbid process even in other places.

Bacteriology of Influenza.—This report is based on a study of cases admitted to hospital with a diagnosis of influenza or pneumonia. Direct smears and cultures from 150 cases were studied by Dick and Murray. Influenza bacilli were found in eighty-seven (63.2 per cent.) of 138 cases in which specimens of sputum or nasopharyngeal secretion were obtained. In the direct smear of the sputum, the influenza bacilli were of varied morphology, appearing in most cases as minute, gram-negative bacilli with rounded ends, usually short, sometimes in pairs like a pneumococcus, but much smaller. In some smears they were so small as to be overlooked easily. In other specimens they appeared as short threads. In sputum which gave a pure culture, they were astonishingly numerous, some being within the leukocytes. Not much difficulty was found in growing the influenza bacillus in pure culture. Pneumococci of all four types were found in thirty-five (25.4 per cent.) of 138 cases in which sputum or nasopharyngeal secretion was obtained. The leukocyte count in the cases of pure influenza bacillus infection was low, corresponding to the leukopenia regarded as characteristic of epidemic influenza.

Blood and Blood Pressure in Influenza.—In fifty-five cases of influenza an exhaustive daily study was made by Levinson of blood, urine and blood pressure. The blood, described usually as showing a neutrophilia, in these cases gave a lymphocytosis at certain stages of the disease, with leukocytosis and neutrophilia on recovery. The blood pressure gave a regular downward curve. Levinson is of the opinion that a diagnosis of influenza may be made from the sudden onset, headache, backache, pain in the limbs, fever, leukopenia, lymphocytosis, slow pulse and low blood pressure.

These symptoms should be sufficient to differentiate influenza from the ordinary respiratory infections with conjunctivitis, sore throat, coryza and leukocytosis. From a study of the blood the suggestion arises that two types of pneumonia may complicate influenza; one associated with leukopenia, and hence possibly caused by the same organism that produces the original influenza, and the other with a leukocytosis and due in all probability to secondary infection by better known organisms.

Bacteriology of Influenza.—Daily examinations made by Jordan of a number of selected typical cases, mild and severe, have shown no one organism constantly demonstrable in large numbers by the methods employed. The two organisms most commonly and abundantly present in this series were the Pfeiffer bacillus and the diplococcus or streptococcus found by Mathers at Camp Meade. The Pfeiffer bacillus was found in 64 per cent. of the cases. The Mathers coccus was found about as frequently and abundantly as the Pfeiffer bacillus, although its occurrence was quite independent of that of the latter. The pneumococcus was found in about 20 per cent. of the cases. *M. catarrhalis*, the Friedländer bacillus and an unidentified gram-negative diplococcus were found at times in large numbers in the throat, nose and nasopharynx of influenza cases. Staphylococci were also sometimes present in great abundance. Two observations on suspected cases of "recurrence" or "second attack" have shown the presence in the throat of organisms (hemolytic streptococci) not found during the original attack. Both recurrences presented some of the clinical symptoms of influenza, but had a moderate leukocytosis. A third case of suspected "recurrence" likewise showed hemolytic streptococci in the throat and slight leukocytosis, but this patient had not been under observation during the primary attack. It seems probable to Jordan that an alleged "second attack" of influenza occurring within a few weeks of the original attack is at least in some cases a new infection with another organism. The observations carried out by the aerobic blood agar plate method and recorded in this paper have not shown the predominance or constant presence of any one organism in the upper respiratory tract of influenza patients. The Pfeiffer bacillus, however, has been more conspicuous than any other organism, particularly in comparison with its relative infrequency in cases of rhinitis and tonsillitis examined during the same epidemic period.

Journal of Parasitology, Urbana, Ill.

June, 1919, **5**, No. 4

*Fasciolopsis Buski. Parasite of Man Seen in Shaohing, China. F. W. Goddard, Boston.—p. 141.
South African Cercariae. E. C. Faust, Urbana.—p. 164.
Tetradonema Plicans (Nov. Gen. et Spec.), Representing New Family. N. A. Cobb, Washington.—p. 176.
Biologic Notes on Tetradonema Plicans, Cobb, Nematode Parasite of Sciara Coprophila Lintner. H. B. Hungerford, Lawrence, Kan. —p. 186.
Longevity of Fish Tapeworm of Man, Dibothriocephalus Latus. W. A. Riley, St. Paul.—p. 193.

Fasciolopsis Buski Infection.—Infestation with *Fasciolopsis buski* in Goddard's opinion is to be regarded as a serious disease; and where local conditions favor it becomes of considerable importance from the standpoint of public health. The most notable symptoms are general weakness, diarrhea, anemia and edema. The rapid accumulation of fluid in the body may be accompanied by a pronounced suppression of urine without evidence of renal involvement. Contrary to certain authorities, fever is not noted, except in complicated cases. The parasite shows great variation in morphology, but with all such gradation in variation as to justify including the forms now described as *F. rathouisi* and *F. goddardi* in the species *F. buski*.

Journal of Roentgenology, Iowa City, Iowa

March, 1919, **11**, No. 1

Chest Inconsistencies. A. Williams, Grand Rapids, Mich.—p. 9.
Roentgenology of Chest. W. W. Wasson, Denver.—p. 24.
Report of Department of Roentgenology, U. S. Army Base Hospital, Camp Lewis, Wash. F. E. Diemer, U. S. Army.—p. 34.
Roentgen Ray of Bureau of Standards Protective Materials. N. Earnest Dorsey, Washington, D. C.—p. 42.
Self-Rectifying, Gas Type, Roentgen-Ray Tube. F. J. Farrelly, Hartford, Conn.—p. 50.
Roentgen Diagnosis in Relation to Clinical Teamwork. V. L. Schrager, Chicago.—p. 58.
Roentgen-Ray Apparatus. M. Morrison, Chicago.—p. 66.
Relation of Roentgenology to Preventive Dentistry. H. O. Hansen, Chicago.—p. 73.
Diaghragmatic Hernia. O. H. McCandless, Kansas City, Mo.—p. 82.
Simple Slide Rule for Computing Roentgen-Ray Exposure. M. H. Hodgson, Rochester, N. Y.—p. 88.
New Goggle for use in Fluoroscopy. I. S. Trostler, Chicago.—p. 92.
Diagnosis and Clinical Manifestations of Cardiospasm Associated with Diffuse Dilation of Esophagus. F. Smithies, Chicago.—p. 94.

Kansas Medical Society Journal, Topeka

June, 1919, **19**, No. 6

Perforated Lung following Bronchopneumonia. F. A. Trump, Ottawa. —p. 123.
Treatment of Infected Wounds. J. S. Sutcliffe, Iola.—p. 124.

Laryngoscope, St. Louis

May, 1919, **29**, No. 5

Types of Orbital Abscess and Exophthalmos Due to Intranasal Suppurative Processes. D. T. Vail, Cleveland.—p. 263.
Reconstruction of Mastoid Wound Cavity by Use of Bone Grafts and Chips. W. P. Eagleton, Newark, N. J.—p. 272.
Case of Tuberculosis of Sphenoid Sinuses. J. D. Kernan, New York. —p. 276.
Technic of Tonsillectomy with LaForce Hemostat Tonsillectomes, Models A. and B. B. D. LaForce, Ottumwa, Iowa.—p. 280.
Simple, Safe and Rapid Tonsil Enucleation Technic for Local or General Anaesthesia. L. Gatewood, New York.—p. 283.
Report of Etyloid Processes Appearing in Throat with Symptoms. W. O. LaMotte, Wilmington, Del.—p. 288.
A Modification of Beck-Sluder Tonsillectome. E. L. Myers, St. Louis. —p. 290.
Two Unusual Cases of Foreign Body Lodged in Upper Respiratory Tract. J. F. Culp, Harrisburg, Pa.—p. 293.
Modern Commentaries on Hippocrates. Physiology and Pathology of Nose and Throat. J. Wright, New York.—p. 295.

Maine Medical Association Journal, Portland

June, 1919, **9**, No. 11

Conservation of Vision. J. A. Spalding, Portland.—p. 301.

Medical Record, New York

June 28, 1919, **95**, No. 26

Radium, Its Present Status as Surgery's Adjunct. C. E. Field, New York.—p. 1081.
Fibromyositis or "Rheumatic Conditions." J. M. Taylor, Philadelphia. —p. 1083.
Treatment of Infections of Uterus and Cervic. F. W. Langstroth, New York.—p. 1086.
Conditions Which Affect Occurrence of Rectal Diseases in Infancy and Childhood. A. A. Landsman, New York.—p. 1089.
Irritable Heart in Soldiers and Recruits. J. Meakins, Montreal, Canada.—p. 1091.

New York Medical Journal

June 21, 1919, **109**, No. 24

Modern Commentaries on Hippocrates. J. Wright, Pleasantville, N. Y. —p. 1065.
*Modified Hemocomplement Fixation Test for Syphilis. B. K. Thomas, Philadelphia.—p. 1069.
Treatment of Acute Gonorrheal Urethritis at Home and in Camp. S. W. Schapira, New York and J. Wittenberg, Brooklyn.—p. 1073.
Diagnosis of Earache. H. B. Blackwell, New York.—p. 1076.
Surface Temperature in Diagnosis of Surgical Abdominal Conditions. M. E. Alexander, Waterbury, Conn.—p. 1077.
Renal Infections Associated with Pregnancy. F. J. Parmeter, Buffalo. —p. 1080.

June 28, 1919, **109**, No. 26

Facts and Fancies in Psychonalytical Treatment. A. A. Brill, New York.—p. 1117.
Bacteriology of Summer Diarrhea of Infants. R. C. Rosenberger, Philadelphia.—p. 1120.
Occurrence of Syphilis as Evidenced by Admisions to City Hospital. J. B. Cross, Buffalo.—p. 1123.
*Infectious Arthritis of Urogenital Focal Origin. L. M. Michel, New York.—p. 1124.
Modified Sluder Vs. Snare or Dissection Operation in Tonsillectomy. H. Rodman, New York.—p. 1127.
Functional Aphonia. P. V. Winslow, New York.—p. 1129.
Paresthetic Meralgia. C. G. Cumston, Geneva, Switzerland.—p. 1130.

Complement Fixation Test for Syphilis.—Thomas points out that valuable modifications to the hemolytic system of

the homocomplement method are pooling serum for the determination of the hemolytic unit, the use of a light cell suspension, and finally taking as the hemolytic unit that amount of amboceptor which completes hemolysis in fifteen minutes rather than in twenty-five minutes. In the test itself, the use of pooled acetone insoluble antigens is of paramount importance, because the antigen is the keystone reagent in this as in every other complement fixation test. The most valuable change in the technic of the test is the substitution of cold for heat fixation. This has not been the experience of some other workers, but this difference may be explained by the increased period of fixation adopted by Thomas. The use of serum with a complement content of variable quantity is theoretically not a part of an ideal system, but practically the influence of this variation is of little importance, because active serum in moderately large amounts are used. In the great majority of instances with such amounts more than enough specific antibody is present to deviate all of the complement with the routine antigen excess. Noguchi has shown that unheated syphilitic serum from an active syphilitic patient contains one antibody fixing unit to every 0.008 c.c. of serum. Therefore, 0.2 c.c. of this patient's serum would contain twelve antibody fixing units. In addition, although syphilitic serum in the majority of instances contains active complement, there are fewer specimens from syphilitic with a hypercomplementary activity than from nonsyphilitics. These two properties of specific serum reduce the possibility of error from hypercomplementosis.

Infectious Arthritis Complicating Urethritis.—Of more than 15,000 cases of urethral infection analyzed by Michel, less than one half of 1 per cent. presented joint complications. This is at great variance with the report of most authorities who report the arthritic complications to be from 2 to 10 per cent. of the urethral infections. The author ascribes these fortunate results to the early care and attention given to venereal infections. A collection of thirty cases of exostosis of the os calci present the following etiologic factors with reference to the gonococci. Four cases of the thirty presented evidence of gonorrheal infection, and of these four cases one had a syphilitic history with a four plus Wassermann. One patient presented a tuberculous testis, but no other cause for the exostosis was discoverable. Speaking of the general treatment, Michel says that the intramuscular injections of specific vaccines, which at times gave brilliant results were on the whole disappointing in infectious arthritis of gonorrheal origin. He has discarded the intramuscular for the intravenous route in the introduction of these vaccines. While the reactions were severe (chills, vomiting, intense aches in muscles and bones), the end results were vastly better; however, there were many cases in which they could not control the acute pains without the use of opiates. Using the nonspecific proteins the results were practically specific in cases of infectious arthritis. There was not a single failure. The severe pain is controlled within three to twelve hours. The reactions are severe and the utmost care is required in the introduction of these agents. However, the results are in direct proportion to the reaction, the more severe the reaction the better the result, when the bounds of safety are not overstepped.

Northwest Medicine, Seattle, Wash.

April, 1919, **18**, No. 4

Today's Surgical Problem. M. G. Sturgis, Seattle.—p. 57.
Surgical Treatment of Cancer of Pyloric End of Stomach. J. T. Mason, Seattle.—p. 63.
Aplastic Anemia; Report of Case. R. A. Glenn and C. L. McVey, Oakland, Calif.—p. 65.
Ectopic Pregnancy. E. I. Rich, Ogden, Utah.—p. 67.

May, 1919, **18**, No. 5

Medicine and Humanity. E. P. Geary, Portland, Ore.—p. 79.
Arguments Against Compulsory Health Insurance. O. M. Rott, Spokane.—p. 81.
Radical Operation for Genital Tuberculosis. G. S. Whiteside, Portland, Ore.—p. 83.
Tonsil Surgery. T. W. Kelsey, Spokane, Wash.—p. 85.
Unusual Case of Severe Injury to Elbow Followed by Little Nerve Envolvement. H. H. Skinner, U. S. Army.—p. 89.
Bacteria of Ten Years Duration Associated with Intense Urticaria and Rheumatoid State. E. O. Houda, Tacoma.—p. 90.

June, 1919, **18**, No. 6

Carrel Dakin Treatment of Empyema at Camp Custer, Mich. J. M. Henderson, Seattle.—p. 101.
Operative Treatment of Fractures. O. F. Lamson, Seattle.—p. 106.
Survey of Thyroid Enlargement Among Students of Puyallup Indian School, Tacoma, Wash., May, 1918. W. J. Kerr, U. S. Army.—p. 110.
Postgraduate Medical School at Camp Lewis. H. V. Würdemann, Seattle.—p. 112.

Public Health Journal, Toronto

June, 1919, **10**, No. 6

*Necessity of Legislation to Prevent Marriage of Physical and Mental Defectives and Those Having Communicable Diseases. J. A. Hutchinson.—p. 249.
Management of Venereal Diseases by U. S. War Department During 1917 and 1918. E. L. Keys, Jr.—p. 253.
Federal Department of Health. M. Steele.—p. 262.
Sickness and Poverty. E. Dyke.—p. 287.

Legislation to Prevent Marriage of Physical and Mental Defectives, Etc.—Hutchinson emphasizes the fact that any reform and especially one which limits individual freedom must have the support of a very considerable majority of the people if it is to produce any satisfactory results. In his judgment, the proper course to adopt would be to obtain and publish statistics indicating the extent and seriousness of the evil to be combated, so as to awaken a public demand for the legislation in question. When that has been done, although there will be obstacles to surmount, there can be no doubt that at least a moderately satisfactory plan for carrying into effect the proposed legislation can be developed.

South Carolina Medical Association Journal, Greenville

June, 1919, **15**, No. 6

Influenzal Pneumonia. T. L. W. Bailey, Clinton, S. C.&p. 469.
Antityphoid Vaccine; Precautions to be Observed in Administration. C. V. Akin, Washington.—p. 470.

Southwest Journal of Medicine and Surgery, El Reno, Okla.

June, 1919, **27**, No. 6

Present Status of Etiology and Treatment of Malignant Growths. E. S. Lain, Oklahoma City.—p. 117.
Nervous and Mental Strain. T. L. Moody, San Antonio.—p. 125.

Southwestern Medicine, El Paso

May, 1919, **2**, No. 17

Interdependent Relationship of Uveal Tract Inflammations and Certain General or Focal Infections. D. F. Harbridge, Phoenix, Ariz.—p. 1.
Operative Treatment of Empyema. B. E. Stevens, U. S. Army.—p. 5.
Medical Inspection of Alien Immigrants at El Paso. J. W. Tappan, El Paso.—p. 7.

Virginia Medical Monthly, Richmond

June, 1919, **46**, No. 3

Experiences at Evacuation Hospital in France. S. McGuire, Richmond.—p. 51.
Uniovular Twin with Congenital Absence of Right Femur. V. Harrison, Richmond.—p. 54.
Infections of Nose and Throat as Primary Foci for Secondary Infections, K. S. Blackwell, Richmond.—p. 55.
Syphilis at U. S. Army Base Hospital, Camp Greene, Charlotte, N. C. C. F. Ross, Richmond and W. A. DeFoe, Detroit.—p. 57.
Retroversion of Uterus with Special Reference to Surgical Treatment. A. S. Brinkley, Richmond.—p. 61.
Intussusception. O. K. Phlegar, Graham, Va.—p. 63.

Washington Medical Annals, Washington

May, 1919, **18**, No. 2

Intravenous Vaccine Therapy. J. B. Nichols, Washington.—p. 35.
Cause of Tetanus. D. P. Hickling, Washington.—p. 43.
Medical Studies in Aviation. E. G. Seibert, Washington.—p. 46.

Wisconsin Medical Journal, Milwaukee

June, 1919, **18**, No 1

Mesenteric Embolism and Thrombosis. J. F. Smith, Wausau.—p. 1.
Training of Medical Speech Specialist. W. B. Swift, Milwaukee.—p. 5.
Common Gynecologic Errors. C. M. Echols, Milwaukee.—p. 5.
Some Unusual Foreign Body Cases. V. A. Chapman, Milwaukee.—p. 9.
Action of Digitalis on Heart, Clinically and Experimentally. O. A. Stienson, Green Bay.—p. 15.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Annals of Tropical Medicine and Parasitology, Liverpool

May 12, 1919, **13**, No. 2

*Number of Races in Species Endameba Dysenteriae (Histolytica). A. M. Smith.—p. 1.
Course and Duration of Infection with Endameba Coli. J. R. Matthews.—p. 17.
Two Parasites of Naja Nigricollis. J. W. S. Macfie.—p. 23.
Genital Armature of Female Tsetse Flies (Glossina). A. M Evans —p. 31.
Strongylidae in Horses VII. Cylicostomum Pateratum, sp. n. W. Yorke and J. W. S. Macfie.—p. 57.
*Treatment of Malaria. XXII. Intramuscular Injections of Quinin Bihydrochlorid on Two Consecutive Days. J. W. W. Stephens, W. Yorke, B. Blacklock, J. W. S. Macfie, C. F. Cooper and H. G Carter.—p. 63.
*Id. XXIII. Oral Administration of Quinin Sulphate on Consecutive Days Weekly, for Five Weeks. J. W. W. Stephens, etc.—p. 69.
*Id. XXIV. Disappearance of Crescents under Quinin Treatment. J. W. W. Stephens, etc.—p. 73.
*Id. XXV. Arsenic. J. W. W. Stephens, etc.—p. 75.
Intestinal Protozoal Infections Among Convalescent Dysenterics. J. R. Matthews and A. M. Smith.—p. 83.
Spread and Incidence of Intestinal Protozoal Infections in Great Britain. J. R. Matthews and A. M. Smith.—p. 91.

Number of Races in Species Endameba Dysenteriae.—Evidence is given by Smith that not all infections of *Endameba dysenteriae* remain constant from one day to another in the average size of their cysts. While the species *E. dysenteriae* can undoubtedly be divided into two races characterized by smaller and larger cysts, respectively, the existence of further races is not confirmed. Infections with *E. dysenteriae* in healthy carriers who have not been out of this country are characterized by a smaller proportion of the "small" race, and also by a reduced proportion of the larger cysts of the "ordinary" race, as compared with infections from convalescent dysenterics from abroad.

Treatment of Malaria. Intramuscular Injections of Quinin Bihydrochlorid.—The authors claim that an intramuscular injection of 15 grains of quinin bihydrochlorid in 2 c.c. of water on each of two consecutive days only, causes the cessation of febrile paroxysms and effects the disappearance of trophozoites from the cutaneous blood in malignant tertian malaria. The action, however, is only temporary, a relapse occurring within three weeks, occasionally within a few days.

Id. Oral Administration of Quinin Sulphate.—Stephens and his associates found that as a palliative, 30 grains of quinin sulphate on each of two consecutive days weekly, over a period of five weeks, suffices to keep the blood free from trophozoites and to prevent relapses in the great majority of cases. It is noteworthy that the percentage of cases having crescents in the peripheral blood diminished each week, viz., from 50 per cent. in the first week to 6 per cent. in the fifth week of treatment.

Id. Disappearance of Crescents Under Quinin Treatment.—Under 30 or 40 grains of quinin daily, crescents do not persist in the cutaneous blood in the majority of cases for more than three weeks.

Id. Arsenic.—The authors found that the novarsenobillon brand of arsphenamin in doses of from 0.45 to 0.9 gm. is of no value in the treatment of malignant tertian malaria. A combination of arsenic with quinin is not more effective than quinin alone.

Archives of Radiology and Electrotherapy, London

May, 1919, **23**, No. 226

Gunshot Wounds of Chest. P. T. Crymble.—p. 369.
Electrotherapeutics in Great Britain; Treatment of Disabled Soldier. W. J. Turrell.—p. 387.

British Medical Journal, London

May 31, 1919, **2**, No. 3048

*Acute Encephalomyelitis in Australia. J. B. Cleland and A. W. Campbell.—p. 663.
*Two Outbreaks of Mild Dysentery Associated with Schmitz Bacillus (B. Ambiguus Andrewes). W. Broughton-Alcock.—p. 666.
Anesthetics in British Hospital with Serbian Army. J. P. Good.—p. 667.
Antimalaria Measures in England. A. MacDonald.—p. 669.
Electrical Changes in Active Tissues. W. M. Bayliss.—p. 670.
Jaundice: Types Occurring During War. W. H. Willcox.—p. 671.
*Traumatic Rupture of Heart Without Fracture or External Lesions. A. C. L. Bilderbeck.—p. 675.

Acute Encephalomyelitis.—An abstract of this article was published in The Journal, May 17, 1919, p. 1496.

Two Outbreaks of Mild Dysentery.—Clinically the cases described by Broughton-Alcock presented signs and symptoms which resembled those seen in mild cases due to the Flexner-Hiss bacillus. The more severe form of dysentery and the associated toxicity so generally found when the infective micro-organism is the Shiga bacillus were not observed in any case. The first outbreak was among troops belonging to one camp. Those in an adjoining camp remained free from infection. The troops in the camp affected had recently arrived from a distant allied country, while in the other they were British, and had been in Italy for several months. Within the period of one week twelve officers and 350 men, out of a total of 3,000 troops, fell ill with a comparatively mild form of dysentery associated with vomiting and abdominal pain. The onset was sudden and acute. In many there was collapse, and the temperature rose to around 102 F. The duration of the attack averaged three to four days, when the patient was practically able to return to his duties and the stools were normal in consistency and character. There were no deaths. The stools were numerous during the first twenty-four to forty-eight hours, and frequency persisted exceptionally to five or six days. The stools consisted mainly of mucus and bile stained watery fecal matter; some contained blood flakes or cells only, but no clots. The mucus in a few was clear and in plaques, while in others it was more opaque and occurred as fine flakes, of color and consistency varying between clear and white according as the pus and epithelial cells therein were few or numerous. It appears that these outbreaks were due to an intestinal intoxication dependent on the proliferation and mild toxicity of the Schmitz bacillus.

Traumatic Rupture of Heart Without Fracture or External Lesions.—While engaged in fire practice in the regimental lines a soldier was pulling the wheeled fire pump when, coming downhill, it ran away with him, and he was crushed between a stone wall and the cross-bar handle of the pulling shaft, which apparently caught him across the middle of the chest. He was seen to fall dead at once. Externally there was some congestion of the right eye, and a small cut and contusion on the right side of the forehead. No other contusions or lesions were found anywhere and no fractures or hemorrhages, though the saliva was tinged with blood, possibly from some undiscovered cut in the mouth. The base of the skull was not fractured; there was marked pachymeningitis along the superior longitudinal sinus. The abdomen was natural; the ribs were unfractured, but were very pliable, so that the chest could be compressed easily. The lungs were natural. The pericardium was full of blood but undamaged. The heart was very small, being only about 3½ inches long and 3 inches broad. The valves and heart muscle were apparently natural, and there was no trace of aneurysm or old disease. In the wall of the right auricle, between the right coronary artery and the entry of the inferior vena cava, was a small rent measuring about three-fourths by one-half inches. Bilderbeck suggests as cause of this curious accident that at the moment of impact the man may have taken a deep inspiration, engorging the right auricle, which then burst on sudden compression through the costal wall by the cross bar of the shaft of the fire pump.

June 7, 1919, **2**, No. 3049

*Brachial "Neuritis" and Its Treatment. R. T. Williamson.—p. 699.
*Febrile Urticaria. R. D. Lawrence.—p. 701.
*Intravenous Injections of Antimonium Tartaratum in Kala-Azar G. C. Low.—p. 702.
Tendon Transplantation in Drop-Wrist Due to Nervous Injury. V. Pennell.—p. 704.
Influenza in Base Hospital in Italy. J. O. W. Barratt.—p. 705.
Chronic Trench Fever. G. Ward.—p. 706.
Jaundice: Types Occurring During War. W. H. Willcox.—p. 706.

Brachial "Neuritis" and Treatment.—Attention is directed by Williamson to the etiology of the affection, and especially

to pressure on the nerve trunks of the brachial plexus in the posterior triangle of the neck as one exciting cause; and to the value of supporting the arm in a suitably arranged sling. He cites cases to show how various kinds of pressure on the nerve roots such as from the suspenders, a shoulder strap, a fall, a blow, carrying a heavy weight on the shoulder, etc., may cause this trouble. He has treated these cases of brachial neuritis by placing the affected arm in a sling. The sling should pass over the shoulder of the normal arm, and it should be so arranged that it passes under the elbow of the affected arm and slightly raises it. The shoulder and the clavicle are thus slightly raised, and pressure on the nerve roots at the lower part of the posterior triangle of the neck (near the first rib) is prevented; also the weight of the arm is supported and dragging on these nerve trunks prevented. All tight braces or shoulder straps should be removed at once. The arm should not be allowed to hang by the side. Most of Williamson's patients, but not all, recovered promptly or improved markedly by the use of the sling, with a pyrazolon derivative given internally.

Febrile Urticaria.—The symptoms in the two cases cited by Lawrence were practically identical, and were characterized by five days' pyrexia, by a diffuse eruption partly resembling urticaria and partly angioneurotic edema, and by intolerable itch. They both occurred in the same hospital within a week of each other. None of the known causes of urticaria were present, and the questions arise whether it was not more than coincidence that these two uncommon cases appeared so close together in time and place, and whether there might not be some unknown specific infective agent to account for them both.

Antimony Tartrate in Kala-Azar.—In the case cited by Low antimony tartrate evidently acted as a specific against Leishmania donovani, and sterilized the patient of his infection. Low cautions, however, that antimony in large doses, given over prolonged periods of time, produces fatty changes in the liver and kidneys, which may seriously damage the resisting powers of the patient, and may even cause death. Therefore, antimony should not be given for longer periods than necessary, and it is important that some definite test should be evolved which will indicate when the infection of kala-azar has disappeared and the patient is cured. If antimony is finally proved to destroy the *Schistosoma hematobium*, then a similar test to determine when this destruction has taken place is required. In all cases where antimony tartrate is given intravenously the patient should be confined to bed on the day of the injection and kept there till the day after, and should be watched carefully throughout the course, any indications of gastric or constitutional disturbances at once contraindicating further injections. Not more than two injections a week should be given, and the salt should not be given in too concentrated a form.

Japan Medical World, Tokyo

May 25, 1919

*Biologic Nature of Virus of Typhus Fever and Prophylactic and Therapeutic Study of Reconvalescent Serum. S. Kusama.

June 1, 1919

*Treatment of Malignant Tumor with Emulsion of Autogenous Tumor Tissue. K. Oba.

Biologic Nature of Virus of Typhus Fever.—Kusama is convinced that the virus of typhus is present in the platelets. The Japanese monkey was infected with the virus and the blood was withdrawn in from 5 to 63 days from the subsidence of the fever and the serum was prepared. With this serum, Kusama tried both prophylactic and therapeutic experiments. Two monkeys were injected hypodermically with 2.0 gm. of the serum per kilogram body weight, and on the next day, the virus was injected into the vein. No symptoms developed. These two monkeys were given the virus after some score of days and the typical symptoms developed in them, thus proving that they had not any a priori immunity against the disease, but that they were protected from the infection by the prophylactic power of the reconvalescent serum that had been given them. Monkeys were infected with the disease and the reconvalescent monkey's serum was administered hypodermically at various stages of the disease in doses of from 0.5 to 2.0 gm. per kilogram of body weight. Each time a remarkable improvement in fever, besires the shortening of the duration of the symptoms was effected. But the latter seems yet to be proved by further experiences.

Treatment of Malignant Tumor with Emulsion of Autogenous Tumor Tissue.—Oba cites the case of a woman, aged 36 years, who had a typical medullar carcinoma of the breast. For two months she was injected with a saline emulsion of her tumor cells. The result was an improvement in the local and general symptoms; microscopic evidence of a change in the tumor cells, the tissue taking on the appearance of chronic inflammatory tissue. There was no evidence of further growth of the tumor. The patient died of pulmonary tuberculosis. At the necropsy carcinoma metastases were found in the liver.

Journal of State Medicine, London

June, 1919, **27**, No. 6

Future of Tuberculosis Problem. P. C. Varrier-Jones.—p. 161.
Social Aspect of Problem of Consumptive in Relation to a Comprehensive Scheme. N. D. Bardswell.—p. 179.

Journal of Tropical Medicine and Hygiene, London

June 2, 1919, **22**, No. 11

Sudanese Examples of Pityriasis Rubra Pilaris. A. J. Chalmers and A. Innes.—p. 97.

Lancet, London

June 11, 1919, **2**, No. 4998

Mental Disorders Associated with Old Age. G. H. Savage.—p. 1013.
Bilharziasis. N. H. Fairley.—p. 1016.
*Antimony Tartrate for Bilharziasis: Specific Cure. J. B. Christopherson.—p. 1021.
*Atypical Strain of B. Paratyphosus B. W. Broughton-Alcock.—p. 1023.
*Case of Medullary Symptom Complex. S. A. Owen and P. A Leighton.—p. 1024.
*Perforating Wound of Heart. F. C. Pybus.—p. 1026.
*Case of Teratoma of Testicular Relic, Throwing Light on Origin of Peptic Ulcer. J. Taylor.—p. 1027.

Antimony Tartrate for Bilharziasis.—Christopherson claims that the intravenous injection of antimony tartrate not only kills first the parasite (*Schistosoma hematobium*) in situ but later it kills the embryos in the ova deposited in the terminal vessels, and sterilizes the ova so deposited, and that the patient is cured not only of his bilharzia parasites but that he ceases to be a bilharzia carrier and cannot propagate the disease.

Atypical Strain of B. Paratyphosus.—The atypical characters found in a micro-organism temporarily classified as a strain of *B. paratyphosus* B isolated by Broughton-Alcock and his associate, Lagane, from the blood of an enterica patient, who showed characteristic clinical symptoms of such an infection, appear to be an example of the marked variation that exists among strains within a group of micro-organisms.

Medullary Symptom Complex.—The following is a summary of the symptoms in the case cited by Owen and Leighton. A woman, aged 47, stated that left sided occipital headache was the only premonitory symptom. Acute onset, without loss of consciousness or convulsion, but with vomiting (once), persistent uncontrolable hiccup, tinnitus (left ear), and intense giddiness; forced movements toward left, left sided cerebellar hypotonia and ataxia (slight), with nystagmus on looking to left; inability to swallow, with paralysis of left vocal cord, dysarthria and paralysis of palate; left pseudoptosis, enophthalmos and small pupil; paresis of left sternomastoid and trapezius; analgesia and thermo-anesthesia of right side of body and face, and left face. Tactile sensibility, joint sense, vibration sense, all normal. Hypertrophied heart; high systolic and diastolic blood pressure, no albuminuria; Wassermann reaction negative. A tentative diagnosis of a lesion of the left posterior inferior cerebellar artery, was made. A second more detailed examination confirmed this diagnosis.

Perforating Wound of Heart.—Pybus' patient was stabbed in the neck and back and four times in the thorax. Pneumothorax was produced on each side. Three of the four thoracic

wounds were over the heart; one of these produced pneumothorax, opened the pericardium, and penetrated the left ventricle, which was sutured about two hours later. Nevertheless the patient survived for five days, then dying from septic infection of the pleurae and pericardium.

Teratoma of Testicular Relic.—Taylor cites the case of a man who complained of irregular attacks of severe pain in the epigastrium of two years' duration and recently becoming worse. This pain, which shot through to the back, did not seem to have any definite relation to the taking of food; it frequently came on in the night. It was accompanied by nausea but no vomiting. The bowels were constipated; no melena. The patient had lost in weight. Laparotomy was performed and a large ulcer found on the lesser curvature close to the cardiac orifice, but actual organic constriction was not present. The duodenum was much dilated; it was somewhat congested; no evidence of ulceration. Behind the peritoneum at the duodenojejunal junction, and partly obstructing it, was a rounded cystic swelling about the size of a duck's egg. It was closely applied to the front of the aorta and had a communicated pulsation from it. This obstructing tumor was carefully separated from the aorta and removed and the ulcer excised. The tumor was a teratoma of a testicular relic. Taylor thinks that the case demonstrates very clearly the fact that obstruction at the duodenojejunal junction, which, according to the theory advanced by Lane, is usually produced by chronic intestinal stasis, and which was brought about here by the pressure of a tumor, may be directly responsible for the development of peptic ulceration.

Medical Journal of South Africa, Johannesburg

March, 1919, **14**, No. 8

Maternal and Antenatal Pathology. A. S. Wells.—p. 388.
*Effort Syndrome. G. D. Maynard.—p. 395.
*Use of Salt Water in Preventing Influenza. W. Watkins-Pitchford.—p. 398.
South African Cercariae. F. G. Cawston.—p. 401.

Effort Syndrome.—Maynard prefers this appellation to the terms, soldier's heart, the irritable heart of the soldier, disordered action of the heart or D. A. H., and neurocirculatory asthenia. He analyzes 121 cases. The characteristic symptoms of this condition are those common to myocardial weakness from many causes. The frequency with which Maynard found them in his cases is as follows: dyspnea, 92 per cent.; palpitation, 80 per cent.; precordial pain, 54 per cent.; weakness, 86 per cent. The average systolic pressure was 129 mm., the diastolic, 74, and pulse pressure, 55. Some apparently definite dilatation of the heart was noted in 46 per cent. of the cases. Systolic murmurs were observed in the following order of frequency: tricuspid, 35 per cent.; mitral, 30 per cent.; pulmonary, 9 per cent., and aortic, 6 per cent. The sinus arrythmiae were observed in 50 per cent. of the cases. Extra systoles were noted in 15 per cent.

Use of Salt Water in Preventing Influenza.—In the early days of the recent epidemic of influenza in Cape Town, the public were advised, through the medium of the daily press, of the possible preventive value of systematically douching the nasal cavities and gargling with warm salt water. In order to ascertain, if possible, the experiences of those who had employed salt water in the manner recommended, the South African Institute for Medical Research appealed, through the medium of the public press of the Cape Province, for personal reports from all those who had adopted this measure. Reports concerning 786 individuals were received, and the information thus provided enables us to arrive at, at least, a tentative conclusion as to the influence of this procedure on the development and course of the disease. The general conclusion which Watkins-Pitchford says all the facts appear to warrant is that the frequent and regular douching of the nasal and nasopharyngeal cavities with salt water was definitely beneficial. The evidence shows that the procedure, when systematically carried out, was capable "of diminishing the probability of such lodgment (of the virus of influenza) becoming permanent, or of modifying at any rate the dose of poison so received."

Practitioner, London

June, 1919, **102**, No. 6

Importance of Immediate Specific Treatment in Influenzal Pneumonia and Other Acute Infections. W. H. Wynn.—p. 288.
The 1918 Influenza Epidemic. C. J. C. Faill and J. A. Fairer—p. 295.
Prevention of Influenza and Pneumonia by Maintenance of Uniform Room Temperature. S. L. Burton.—p. 301.
Cause of Influenza; The Weather; A Suggestion. M. D. O'Connell.—p. 302.
Early Bone Grafting in Wounds. R. A. Stoney.—p. 310.
Conditions That May Simulate Referred Pains of Visceral Disease. E. F. Cyriax.—p. 314.
Fatal Tetanus Following Subcutaneous Injection of Gelatin. F. P. Weber.—p. 323.
Treatment of Some Minor Injuries of Foot, with Special Reference to Workmen's Compensation. R. K. Howat.—p. 325.

Archives de Médecine des Enfants, Paris

June, 1919, **22**, No. 6

*Infantile Scurvy. J. Comby.—p. 281. Conc'n.
Necessity for Organizing a System of School Nurses. L. Guinon.—p. 299.
*Measurements of Children. A. Bleyer.—p. 311.

Infantile Scurvy.—Comby states that the sexes were equally divided in his sixty cases of scurvy in infants, but none of the children was less than 6 months old; one was over 3, two were 8 years old, and one 9. The previous instalment of his article was reviewed in these columns, page 1875. He reiterates in conclusion that orange juice should be given systematically as a preventive to all children being fed sterilized milk.

Measurements of Children.—Bleyer compares the figures as to height and weight in 2,000 schoolchildren at Vienne, a manufacturing town in France, with similar data from Paris and from the United States. The weight of both boys and girls was higher at Vienne than at Paris and in the United States, except that the United States figures for the ages 12 to 14 were a little the highest. The same superiority of the Vienne children was also apparent in the weight, surpassing the weight of the Paris and United States children except that boys of 13 and 14 and girls from 12 to 14 weighed a little more in the United States figures. Bleyer's research was done under the auspices of the American Red Cross Children's Bureau.

Bulletin de l'Académie de Médecine, Paris

May 27, 1919, **81**, No. 21

*Origin of Cancer. A. Robin.—p. 699.
*Hygiene of Elderly Men. Armaingaud.—p. 711.
*Radiology in the War. G. Haret.—p. 718.
*Crisigenous Treatment of Influenza. M. Renaud.—p. 720.
*The Finger Prints of the Blinded. Ferrier.—p. 723.
*Doses in Roentgen Work. H. Guilleminot.—p. 726.

Etiology of Cancer.—Robin presents what he says is a new conception of the origin of cancer. It is based on his noticing that cancer tissues and the tissues around the focus contain much more water than other tissues. They share this tendency to hydratation with all very rapidly growing tissues, only that they have it in an exceptional degree. The cancer tissue has less total residue than normal tissue. The reverse is observed in tuberculous lung lesions, the content in organic and inorganic matters being much above normal especially in the region around the focus. He regards this as an aid in the defense, nothing of the kind being observed with cancer. He gives further figures in detail from a number of cases of cancer of the liver, pancreas, etc., and from healthy corresponding organs, "all testifying to a double or almost triple proteolytic ferment action in the tissues around the cancer, not in the cancer itself. The dissociating action of this proteolytic ferment may by some reversive action incorporate some of the dissociated amino-acids in some of the cells of the organ, thus imprinting on these cells a tendency to rapid growth and anarchistic multiplication, the rapidity of their growth not leaving them time for differentiated evolution. Contrary to the way the tubercle grows, the cancer builds itself up out of the products of dissociation of the proteic substances of the organ on which it is developing, selecting preferentially those among the amino-acids which Osborne and Mendel regard as the growth elements (hexonic bases)."

Hygiene for the Elderly.—Armaingaud expatiates on the importance to the community of men of 60 and 70 or more who have retired from active business and are able to advise in civic and other matters from their ability and experience. To preserve them hale and hearty for their families and the community has been his special study for many years, and his experience in 38 cases is very instructive, as he describes. He quotes an Arab proverb to the effect that the things most to be feared for an elderly man are a good cook and a young wife. His article is entitled "Les Amours des Vieillards," and he relates that of the 19 whom he persuaded to follow his advice, 16 lived to far beyond their life expectancy, while 12 who could not be persuaded to do this all died on an average of four years short of their life expectancy. They averaged thus thirteen years less of life than those of the other group. Their last years also had been embittered by irritability, fatigues, jealousy and discontent. "Men do not wear out at 65 or 70 from normal wear of the organs but from the way they use and abuse life." Armaingaud is very proud of the 16 elderly men whom he was able to persuade to his views. This group of cheery, energetic, placid grandfathers formed almost a professional scientific experiment. A further group of 7 elderly men, all extremely wealthy, heeded his advice for a time but finally returned to their former habits, and died with eleven years less of life, on an average, than the first group. Armaingaud outlines the arguments he used. Every community and history can furnish "examples to deter."

Military Radiology.—Summarized in the Paris Letter, page 1929.

Treatment of Influenza.—Renaud seeks to bring on artificially the natural crisis in pneumonia, and calls this "crisigenous treatment." He applied it in 26 severe cases of grave influenzal pneumonia and all terminated in recovery. Since then he has applied it in 120 other cases of grave influenza, including 5 or 6 patients who had seemed doomed, and all recovered. He first gives an intravenous injection of epinephrin, 0.25 mg., and follows this in twenty minutes with injection of 20 to 40 c.c. of antipneumococcus serum. The reaction within an hour is sometimes impressive, with chills, small pulse, up to 140, temperature up to 104 F., or even more, but this phase is transient and ends in sweating and the patient feels great relief and enters on convalescence by night time. The vasomotor stimulus from the epinephrin seems to favor the action of the antiserum.

Finger Prints of the Blinded.—Ferrier suggests that a finger print to identify the signature of the blinded might prove useful in certain circumstances.

Doses in Radiotherapy.—Guilleminot discusses the laws of the action of pure, simple radiation, the application of these laws to ordinary rays, and the practical means to ensure the proper doses deduced from these laws.

Bulletin de la Société Médicale des Hôpitaux, Paris

April 11, 1919, **43**, No. 14

Lung Abscesses in Gassed Soldiers. A. Clerc and others.—p. 339.
*The Oscillometer Index of the Blood Pressure. E. May.—p. 344.
Agglutination of Proteus by Typhus Serum. R. J. Weissenbach.—p. 348.
*The Leukocyte Count in Typhus. R. J. Weissenbach.—p. 353.
Influenza at Fez. P. Nicaud.—p. 356.

The Oscillometer Index of the Blood Pressure.—May divides the difference between the maximal and minimal oscillometer findings by the differential pressure, the quotient forming the oscillometer index which gives a good idea of the conditions in the circulation, as he explains in detail. The oscillometer used is Pachon's model.

The Leukocyte Count in Typhus.—Weissenbach states that the leukocyte count was never up to 20,000, and averaged 15,000, with moderate neutrophil polynucleosis, with disappearance of the eosinophil and basophil polynuclears in all his typhus patients who recovered. On the other hand, in the fatal cases he found a neutrophil polynucleosis of 95 per cent. and hyperleukocytosis of 30,000; at the time the blood count was made the symptoms did not indicate that the disease was especially grave.

Presse Médicale, Paris

May 22, 1919, **27**, No 29

*Lichen Planus of the Mucosa and Leukoplakia. A. J. L. Brocq.—p. 277.
Subcutaneous Salicylic Treatment of Rheumatism and Gout. J. Séjournet.—p. 280.
The Normal Food Ration. L. Binet.—p. 281.
Lumbar Puncture after Trauma of the Skull. R. Dubois and A. Hanns.—p. 283.

June 5, 1919, **27**, No. 31

The Masters of Physiology: Claude Bernard and Pasteur. C. Richet.—p. 297.
Pituitary Treatment in Obstetrics. Schwaab.—p. 299.

Lichen Planus on Mucous Membranes.—Brocq warns general practitioners against assuming that every permanent white patch on the mucosa is inevitably leukoplakia, as lichen planus may deceptively simulate it. He has had three patients with lichen planus of the tongue which other physicians had been treating for leukoplasia, that is, with mercury, etc., for the assumed underlying syphilis. Even with true leukoplakia, syphilis is not invariably the cause; trauma from smoking, from a jagged tooth, etc., may be responsible for it. If there are signs of a malignant tendency, the practitioner should advise consulting a surgeon. In some cases extensive resection, done early, has cured the patient apparently completely, but in the majority of cases the operation has seemed to hasten the fatal ending.

Revue de Chirurgie, Paris

September-December, 1918, **37**, No. 9-12. Publ'd May, 1919

*Treatment of Supracondyle Fracture with Nail Extension. H. Fresson and R. Toupet.—p. 161
*Traumatic Shock from War Wounds E. Quénu.—p. 204.
*Loose Bodies in Joints. P. Coudray.—p. 341.
Thoraco-Abdominal Wounds. A. Martin.—p. 367.

Nail Extension for Fracture.—Fresson and Toupet report excellent results from nail extension in 32 supracondyle war fractures, all compound but 6. Amputation was not required in any case, and with 3 exceptions, including the 2 men who succumbed to their multiple wounds, consolidation was soon complete. It was perfect in 18, the men using the leg when discharged, but 11 were still wearing the cast although consolidation was complete. One case warns that the decalcification which may develop after a war wound is liable to involve even the healed fracture. Traction by nail extension seems to be superior to all other methods when the traction has to be applied to the flexed knee, and powerful traction is desired. Other things being equal, he declares it is borne best by the tissues. In his 47 cases there was no mishap of any kind except hydrarthrosis in one instance. His fifteen roentgenograms confirm the perfect end-to-end healing, and his twelve other illustrations show the various points in the technic. The nail is preferred by the patients to traction with adhesive plaster, but the main advantage is that the knee can be exercised. He kept up the traction in this way for six weeks on an average. The nail is a single steel skewer, 3 mm. in diameter, the point four sided. The traction is done with a U-shaped strip of iron, 25 mm. by 2 mm., with a ring to hold the cord, and a notched adjustable crossbar to hold the sides apart. The skewer is driven in at the intersection of the vertical line prolonging the axis of the femur and the horizontal line passing by the upper margin of the condyles.

Traumatic Shock.—Quénu refers to the traumatic toxemia with its set of symptoms indicating depression of the vital processes while the mind is not impaired. He devotes 236 pages to analysis of the literature on the subject published by the Allies, thus compiling for future investigators the data on the subject accumulated during the war. The number of clinical observations published was comparatively small, but they brought about the revolution in the conception and treatment of shock. In the surgical posts at the front, traumatic shock sometimes was responsible for the death of more than half of those that could not be moved. He adds that when for special reasons it is impossible to remove the focus, instead of mere expectancy, we might temporarily fasten the toxins in situ, as Heitz-Boyer did in one case in intense traumatic shock, filling the largest of the three large

wounds with a solution of formaldehyd and methylene blue and giving copious hypochlorite irrigation.

Loose Bodies in Joints.—Coudray gives the details of six personal cases and reviews those published by others. The distinction between a traumatic loose body and one that is due to arthritis without effusion has seldom been made with precision. The arthritis may be explained by rheumatism, by a trauma, or by some nervous affection. The loose bodies cast off by a subchondral tuberculous osteitis seem to occur more frequently than is generally recognized. They have sometimes been mistaken for traumatic bodies. There is no evidence of the existence of a dissecting osteochondritis. Coudray's article is a sequel to one on the same subject published in 1905 reporting considerable experimental research in this line on dogs. Time and experience have only corroborated his earlier statements.

Revue Mens. de Gynécologie et d'Obstétrique, Paris

April, 1919, **14**, No. 4

*Breech Presentation. S. Remy.—p. 125.
*Decapsulation of Kidney in Puerperal Eclampsia. Jullien.—p. 131.
*Roentgen Treatment of Uterine Fibroma. R. Karhausen.—p. 136.

Breech Presentation.—Remy reviews his experience with 24 cases of breech presentation. It shows that when the uterus is contracting energetically the pelvis and the trunk of the child are delivered easily and rapidly, bringing down the arms and delivering the head by the classical means. Cases of this kind cannot be classed as fetal dystocia. But unfortunately this smooth delivery does not invariably occur. In his 24 cases intervention was required in 11, including 4 in the group of 17 in which pelvic presentation was discovered early. In the other cases Remy was summoned on account of serious dystocia from breech presentation. Intervention was usually required in the first group because the expulsive forces were too weak. Two died of the 9 children in the cases of intervention and 2 other fetuses were dead when the case was first seen. The mothers were primiparas in the two cases that proved fatal for the children, and in both the arrest was at the pelvic inlet. In such cases, if the Pinard-Mantel procedure does not prove successful, he would apply Olivier's porte-lacs to pass a fillet around the neck of the fetus. He thinks this would have succeeded in one of these cases if the whalebone had not broken just at the critical moment. The child was successfully extracted but it died during the intervention. In his 9 cases of breech presentation ending in normal delivery, 7 of the women were primiparas but the normally vigorous labor contractions insured comparatively easy delivery. Intervention was required in 3 cases as the labor contractions were too weak with arrest at pelvic floor, but delivery by classic methods proceeded smoothly in 2 cases, one a primipara. The other fetus had died before the intervention.

Decapsulation of the Kidney in Puerperal Eclampsia.—Jullien reports the case of a woman of 25 in eclampsia which had persisted after delivery, the woman still in profound coma with almost complete anuria. The pregnancy was at seven and a half months and the fetus had been spontaneously delivered. In eighteen hours thereafter she had voided only 130 c.c. of urine, and it contained 12 gm. of albumin. Decapsulation of both kidneys was then done and the coma gradually passed off and the woman recovered. Jullien warns that this success must not mislead us to demand more of decapsulation than it is capable of yielding. It has no appreciable action on changes in the liver or brain, but it is the sovereign remedy for derangement of the secretion of urine. Statistics show that the secretion of urine is reestablished in fully 80 per cent. of the cases, although the mortality in eclampsia, notwithstanding surgical treatment, is 39.66 per cent. Of course the operative cases are only those of exception gravity. Tisserand has recently pointed out that while decapsulation starts the secretion of urine anew in cases of mercuric chlorid poisoning, yet the patients die just the same. Decapsulation should be considered in eclampsia only in the cases with anuria. He performed the simple bilateral operation without special assistance, under brief ether anesthesia, the whole complete in less than twenty minutes.

Roentgen Treatment of Uterine Fibroma.—Karhausen emphasizes the fine result obtained in this case. The patient was a woman seven years past the menopause. There had been disturbances from the fibroma for fifteen years, but no permanent benefit had been obtained from prolonged medical measures. Eight exposures of the tumor were given at three to six weeks' interval and the fibroma, which had reached to 9 cm. above the pubis, gradually subsided, but adhesions were painful and subhysterectomy was finally done.

Revue Neurologique, Paris

July-August, 1918, **34**, No. 7-8

Diagnostic Importance of Reflex Action from the Vestibule and Equilibration. G. A. Weill.—p. 1.
Symptoms from Traumatic Injury of the Thalamus. M. Faure-Beaulieu and G. Aymès.—p. 10.
Abolition of Tendon Reflexes with Recent Injury of the Skull. R. Gauducheau and H. Bouttier.—p. 15.
Etiology of Tuberous Sclerosis. L. Babonneix.—p. 17.
Amnesia by Persuasion in a Dement. Legrain.—p. 21.

Correspondenz-Blatt für Schweizer Aerzte, Basel

May 10, 1919, **49**, No. 19

*Psychanalysis for Children. L. Frank.—p. 641.
*Mosquitoes in Switzerland. B. Galli-Valerio.—p. 652.

May 17, 1919, **49**, No. 20

*Chronic and Duodenal Ulcer. E. Kummer; Id. E. Bircher.—p. 673.

Psychanalysis for Children.—Frank illustrates by a number of concrete examples the imperative necessity for seeking out the cause when children change to be irritable and display anger and hatred for the ones they really love best. Psychanalysis may give the clue, and change of scene to a sympathetic environment may ward off irreparable injury, and save the child from a criminal career. The question is, where can such children be sent where they will get the patience and affection they require, in wholesome surroundings, with other children? A temporary change from the paternal roof is so indispensable that Frank declines to take any such case unless this is arranged. In conclusion he emphasizes the internal conflicts to which illegitimate children are so often exposed. The more intelligent the child, the more keenly he feels his ostracism and resents the prejudices of society. It is not a casual coincidence that so many professional criminals are of illegitimate birth. Frank says further that the psychobiologic phase of the subject of the declining birth rate never gets mentioned in scientific discussions. Even physicians are not qualified to discuss it as their university training leaves out of account altogether the important normal and pathologic psychic manifestations of the reproductive functions. And yet, he asks, "Are not these psychic processes the axis on which our entire human life revolves, its happiness and its unhappiness? Are these forces actually imponderables for the physician? A correct understanding of human biology leads inevitably to the conclusion that man can live a healthy and happy life only when he is not fighting like a Don Quixote against the forces working in him, the gregarious instinct and the longing to love and be loved. . . ." "The university courses in medicine, law, theology and pedagogy, although the professions they teach have to deal always with man and his relations with his environment, yet pass over entirely the normal or pathologic life of sentiment and sex relations in general."

Mosquitoes in Switzerland.—Galli-Valerio was delegated by the Public Health Service to collect data on this subject. He found anophelines up to altitudes of 1,143 meters and the culex to 2,390 meters (over 7,170 feet). He noticed an unusually long larval stage in some of the mosquitoes, especially the nigripes; some of the larvae of the latter were 6 to 8 months old before they changed to the pupal stage. He found mosquitoes in every canton, and describes their biology. One town had no standing water and hence no mosquitoes except in the cisterns for fighting fires.

Chronic Gastric and Duodenal Ulcers.—Kummer discusses the pathology and the statistics while Bircher discusses the operative technic. These two comprehensive articles formed the leading addresses at the fifth Swiss Surgical Congress. According to Kummer's statistics, gastro-enterostomy offers two or three times less vital danger than resection and exci-

sion, while the functional results are equally as good, irrespective of the site of the ulcer. Nothing is more difficult, he says, than to cure a peptic ulcer, and this should be borne in mind before doing any operation of the kind. Cancer developed after gastro-enterostomy in 2 per cent. between 1890 and 1910, but only in 0.13 per cent. in 1910 to 1917, in a total of 1,152 operations of the kind by twenty-three Swiss surgeons, including 252 duodenal ulcer cases.

Bircher deplores that gastro-enterostomy has not answered all anticipations, and he ascribes this to the neurotic factors involved in the ulcer. The ulcer seems to be the outcome of a vagotonic vicious circle formed by hypersecretion, retarded evacuation and pylorospasm. The gastro-enterostomy breaks up this circle as thyroidectomy breaks up the vicious circle in exophthalmic goiter. The pylorospasm is arrested; this improves evacuation conditions, and the pains may disappear completely at once. The question is whether it may not be possible to arrest the pylorospasm in some simpler way, possibly by severing the vagus or the contracting muscle. He reiterates that at present resection of a transverse segment of the stomach is superior to gastro-enterostomy in every respect, and it takes no more time than the latter. He declares that this technic should be applied without exception for ulcers that are not near the pylorus, also for all hard, boring ulcers, as well as with the slightest suspicion of cancer. Excision of the ulcer alone deforms the stomach and may compel another operation later. He declares that a bleeding ulcer should not be operated on. The best way to prevent dangerous hemorrhage is by early resection. Albert Kocher said in the discussion which followed that gastro-enterostomy is still as ever the preferable operation for gastric and duodenal ulcer. He emphasized the rarity of malignant degeneration, saying that the wide divergence in the figures of different surgeons, from 0.5 to 70 per cent. is undoubtedly due to errors in interpretation. He related that he had personally examined the Mayos' specimens, and was convinced that much of what they labeled cancerous degeneration of ulcers was in reality merely atypical proliferation of epithelium. Regenerative processes in the gastric glands assume most peculiar shapes, and we have no means to date to differentiate them except by the outcome.

De Quervain made a plea for refraining from gastro-enterostomy if the expected ulcer is not found. Peptic ulceration occurs oftener than is generally recognized. It may escape detection or the patient may apply to another surgeon and the first never hear of the peptic ulcer. Even if he does learn of the symptoms, he is very apt to ascribe them to the primary ulcer. De Quervain found in three cases a scrap of silk thread in the depths of the peptic ulcer, and since then has used exclusively a special, very slowly absorbed catgut. Other material is used only for closing the slit in the transverse mesocolon, taking the button sutures 1 cm. apart, through stomach, mesocolon and jejunum. Kopp reported a case of recurring hematemesis and melena in which the symptoms pointed solely to the stomach or duodenum except for two weeks of jaundice, but necropsy in less than three months revealed a round ulcer in the gall-bladder and one in the cystic duct

Gazzetta degli Ospedali e delle Cliniche, Milan

April 24, 1919, **40**, No. 33

*Symptomatology of Epidemic Meningitis. L. Nelli.—p. 307.

April 27, 1919, **40**, No. 34

Therapeutic Pneumothorax for War Wounds of Chest. G. Pisanò. —p. 317.

Symptomatology of Epidemic Meningitis.—Nelli states that in his 100 cases of epidemic meningitis, headache, vomiting and herpes were observed in every case and the pulse was always very slow, down to 35 and 40 in some cases. As the prognosis grew graver the pulse became accelerated. There were manifestations in the skin only in about 10 per cent. of the cases. In one patient there was actual purpura with swelling of the joints. In two cases that terminated fatally the course was apyretic throughout, and in all the fever was seldom above 38 or 38.5 C.

Policlinico, Rome

May 18, 1919, **26**, No. 20

*Orthodiagraphy. F. Perussia.—p. 609.

Convalescents' Serotherapy of Tuberculosis; One Case. A. Milani. —p. 624.

Orthodiagraphy.—Perussia expatiates on the advantages of this method of outlining the heart, "although it is not a method of precision at the best." He discusses the preferable technic.

Riforma Medica, Naples

May 10, 1919, **35**, No. 19

*Influence of Mercurial Treatment on the Coaguloreaction. S. Scigliano. —p. 374.

*Roseola Simulating Syphilids. L. Martinotti.—p. 377.

*Fracture of Petrous Bone. E. Aievoli.—p. 380.

Influence of Mercurial Treatment on the Coaguloreaction.—Scigliano refers to the coaguloreaction of Hirschfeld and Klinger, proposed as a serodiagnostic test for syphilis. It was applied by him systematically in a large number of cases parallel with the Wassermann test, applied by the original and by several modifications of the original technic, repeating the tests at a year's interval while 45 patients were being given vigorous treatment. The results show that mercury does not affect the findings of the coagulo-reaction as it affects the Wassermann reaction. That is, recent mercurial treatment does not modify the serum of syphilitics so as to deprive it of the properties which induce the coagulo-reaction. This reaction is less sensitive to mercury than the Wassermann, and consequently may prove decisive in dubious cases.

Roseola Simulating Syphilis.—Martinotti reports six cases in which the skin presented roseolar, apparently typical syphilids, but there was nothing at the time or later to suggest this disease. He explains them as probably due to autointoxication or some infection, possibly influenza.

Fracture of the Petrous Bone.—Aievoli comments on the difficulty of diagnosing fracture of the petrous bone as the symptoms may suggest constitutional disease, coma from diabetes, sunstroke, uricemia or cerebral hemorrhage. Treatment usually has to be expectant, combating shock, intracranial hemorrhage, infection, hypertension and compression, unless surgical measures are indicated from the first.

Rivista Critica di Clinica Medica, Florence

May 3, 1919, **20**, No. 18

*Effusion with Induced Pneumothorax. G. Breccia.—p. 205. Commenced in No. 16, p. 181.

Effusion with Induced Pneumothorax.—Breccia ascribes to the compression on the vessels in the hilum of the lung the disturbance in the circulation which is the main cause of the pleural effusion with therapeutic pneumothorax for pulmonary tuberculosis. This is also the cause for the effusion with heart disease, the enlarged heart pressing on the hilum and compressing its vessels. This explanation is a guide to treatment, as the presence of fluid in the pleura may push down the diaphragm or displace the mediastinum, and thus mislead one as to the absolute pressure in the pleura in inducing the pneumothorax. The effusion is liable to be rapidly resorbed, modifying completely pressure conditions with the pneumothorax, unless measures are taken at once to maintain the curative pressure on the lungs which abates as the fluid is absorbed. If the effusion shows a tendency to remain stable, he advises to respect it, as also when the effusion displays a progressive tendency unless it becomes excessive, when it requires treatment as for any pleural effusion. He emphasizes that the pleural effusion alone may exert the desired pressure on the lung, and in connection with the pneumothorax may regulate automatically the hydropneumothorax. He discusses further the indications when the effusion is purulent, mentioning parenthetically that the 12,000 soldiers passing through his service in the last two years amply demonstrated that the lung is able to expand and recuperate function almost always after a war wound of the chest affecting a sound lung. In the tuberculous lung,

however, conditions are different, and time alone will show what share the pleuritic changes have in the final outcome of recovery under induced pneumothorax.

Archivos Españoles de Enf. del Ap. Digestivo, Madrid

April, 1919, **2**, No. 4

*Rational Dietaries. J. G. Ocaña.—p. 193. Cont'n.
*Operative Cure of Plastic Linitis. L. Urrutia.—p. 201.
*Tabetic Crises. J. Vilató.—p. 207.
*Electric Treatment of Hyperchlorhydria. C. M. Colmenarejo.—p. 217.

Rational Dietaries.—This is the seventh in a course of popular scientific lectures on this subject.

Chronic Inflammation of the Cellular Tissue of the Stomach.—Urrutia gives a number of illustrations of the case of Brinton's plastic linitis in which he resected all but a long narrow horizontal segment, including the cardia. This was sutured to the side of the jejunum. Urrutia discusses the nature of this "leather bottle stomach," inclining to accept a malignant origin. In this case the man was restored to apparent clinical health for over half a year but then abdominal pain and cachexia developed and death ensued eight months after the operation, twenty months after the first vomiting and loss of weight had attracted attention.

Tabetic Crises.—Vilató reiterates that tabetic crises in stomach, intestine, pharynx or esophagus may be the first manifestation of tabes, and hence the practitioner should be on the alert to suspect it in every possible manifestation of the kind. To aid in this he describes in minute detail the forms which these crises may assume.

Electric Treatment of Hyperchlorhydria and Gastric Ulcer.—Colmenarejo applies the continuous current in treatment of these conditions, keeping up the daily sittings for about two months. He begins with 5 ma., gradually increasing to 30 ma. by the end of the month. The felt-protected positive electrode of about 15 square cm. is placed on the epigastrium, the negative in the dorsolumbar region. The second month he supplements this with brief exposures to a weak faradic current to combat the atony and dilatation. If there has been much hemorrhage from the ulcer, he waits for two or four weeks before beginning the electric treatment. The results have been most gratifying in nearly all his cases.

Archivos de Ginecopatía, Obstetricia y Pediatría, Barcelona

April, 1919, **32**, No. 4

*Blunder in Sex Determination. D. Casadevall.—p. 73.
Chronic Nephritis in Boy of Eleven. P. P. de F. Garriga.—p. 77.
Pulmonary Tuberculosis in Children. Horobio.—p. 85.

Pseudohermaphrodite.—Casadevall reports the case of a girl, 2 years old, brought to the clinic on account of inguinal hernia, and the "hernia" proved to be testicles. The amazed parents left the clinic with a son instead of a daughter. The case reaffirms the importance of being wary in classifying the sex when there is the slightest anomaly in the genital organs. The labia were somewhat overdeveloped in this case, and on one side the skin was somewhat corrugated and shrunk with cremaster retraction. The supposed vagina was the outlet merely of the bladder. Several illustrations of the case are given.

Archivos Latino-Americanos de Pediatría, Buenos Aires

March-April, 1919, **13**, No. 2

*Child Welfare Work. J. A. Bauzá.—p. 97.
Paradoxic Alimentary Reaction. A. Mola.—p. 104.
*Chronic Hemorrhagic Purpura. J. Bonaba.—p. 110.
*Tumor of Pineal Gland. L. Morquio.—p. 119.
Astasia Basophobia in Boy of Three. J. C. M. Fournier.—p. 127.
*Meningeal Reaction in Mumps. J. Bonaba.—p. 130.
*Echinococcus Cyst in Lung. V. Zerbino.—p. 137.

Child Welfare Work at Montevideo.—Bauzá describes the aims of the child welfare stations, and insists that the work should include training in the care of children, prenatal consulting station, well-baby station and a children's clinic for children of all ages.

Case of Chronic Purpura.—Bonaba relates that the child of 6 subject to recurring epistaxis for four or five years had developed in the last few months a purpuric eruption with vomiting of blood and bleeding from the gums until the anemia was intense. The reds numbered only 950,000; the hemoglobin only 15 per cent. As a last resource to arrest the recurring epistaxis, the nasopharynx was cauterized. It accomplished this, and the hemorrhagic tendency seemed to subside, the blood regenerated and the present condition has been very satisfactory during the nine months since. He is convinced that the cauterization was responsible for this, as all other known measures had proved ineffectual, and the child was dying from the repeated losses of blood, especially the recurring epistaxis.

Tumor of Pineal Gland.—Morquio's patient was a boy of 12, previously healthy until he began to complain of headache and the clinical picture of tuberculous meningitis became installed, quite typical, except that the spinal fluid seemed to be normal. The child died at the end of a month, and necropsy revealed sarcomatous changes in a tumor in the pineal gland, probably of congenital origin.

Meningeal Reaction in Mumps.—Bonaba emphasizes the danger of mistaking the meningeal reaction in the course of mumps for actual meningitis, expecially in cases in which the mumps was abortive or so mild that it was overlooked. The meningeal reaction is generally mild and transient, but Morquio has reported a case of total permanent deafness as a sequela, and others have published cases of encephalitis, optic neuritis, zona or polyneuritis following mumps. The meningeal syndrome may persist for some time, up to two months in Massary's case. Lymphocytosis is the rule in these cases, but it is not invariably present. Repeated lumbar puncture showed no trace of it in three children with typical mumps. Massary found it constant in examining 635 soldiers with mumps; it was equally pronounced in those without any definite meningeal reaction. But the lumbar puncture may have to be repeated several times before it becomes evident. Massary calls it the lymphocytic meningitis; bradycardia and white demography are common.

Echinococcus Cysts in Lungs.—Zerbino reports two cases of hydatid disease of the lung in which the hydatidiform cyst in the lung ruptured spontaneously and the contents were coughed up by the children. The cure was soon complete in both cases as is the rule in children with small and young cysts, the contents of which are often sterile. If the membrane has been expelled, treatment should be only symptomatic. The position of the cyst does not affect the outcome as the contents are expelled by coughing.

Brazil-Medico, Rio de Janeiro

May 3, 1919, **33**, No. 18

*Leprosy in Northern Brazil. J. A. Atar.—p. 137.
Bifurcated Claw Thumb. A. F. de Magalhães.—p. 139.

Leprosy in Northern Brazil.—Atar relates that a leper asylum was founded in 1816 in the state of Pará, the disease having probably been imported from Europe. In 1900 there were twenty-five admissions and in 1917, 112, the authorities having recently made declaration of the disease compulsory. Of the total 882 new cases since 1899, 600 were males. Only 8.50 per cent. were under 10 years of age; 27.21 per cent. were between 10 and 20; 20.29 per cent., 20 to 30; 21.54 per cent., 30 to 40; 12.47 per cent., 40 to 50; and from 5 to 0.22 per cent. in a declining scale in the following decades of life. Atar does not know of any other statistics classified by ages. He says that the new cases now in Pará are nearly all in subjects under 20, and argues that the immunity of the older adults is probably due to an autovaccination from repeated small inoculations of the virus. This assumption would explain the relatively small percentage of children that develop leprosy in a leper's family. He mentions further that the distribution of leprosy in Pará does not coincide with that of malaria. In the Gurupa malarial zone there has been scarcely one new case of leprosy in the last twenty years, and he queries whether this may not be the direct consequence of the ravages of the malaria among the children. Leprosy has been growing less frequent at Pará since malaria has been making greater headway there.

Gaceta Medica de Caracas

March 15, 1919, **26**, No. 5

The Slow Pulse in Influenza. Machado and others.—p. 47.
*Resection of Ileocecal Segment for Cancer. S. Córdoba.—p. 49.
Cancers of Large Intestine. J. C. R. Morales.—p. 54.

Cancer of Ileocecal Segment.—Córdoba states that the clinical recovery has been perfect in the case described, the man of 45 six months later having gained much in weight and regained almost the whole of his strength. The case is illustrated. Córdoba believes that it is the first operation of the kind followed by entero-anastomosis on record in Venezuela.

Progresos de la Clinica, Madrid

March, 1919, **7**, No. 75

*Reconstruction of the Face. A. Cortés Lladó.—p. 97.
*Extraction of Cataract in the Capsule. F. P. del Fresno.—p. 117.
*Postinfluenzal Thyroid Insufficiency. W. L. Albo.—p. 122.
*Ossification from the Periosteum. A. H. Carmona.—p. 129.
Spanish Mineral Waters in Treatment of Disease of Digestive Apparatus. B. B. Campos.—p. 135.

Reconstruction of the Face.—Lladó's second article on this subject is also profusely illustrated, discussing how to avoid disfiguring scars from the suture, and prevent associated movement resulting from anastomosis of muscles or nerves. In one of Chutro's cases the deformity of the mouth had been corrected perfectly but, as the man laughed, the shoulder on the other side was lifted up. Lladó has been making a special study of plastic facial surgery in France and compares the methods of different surgeons and the indications for the different types of interventions.

Cataract Operations.—Del Fresno describes with two colored plates his modification of von Graefe's operation for extraction of cataract in the capsule. The loss of vitreous humor is much less, he says, when a movement of extraction is combined with pressure, as he explains.

Postinfluenzal Thyroid Insufficiency.—Albo gives the details of two cases in which, following an attack of influenza, girls of 11 and 10 developed somnolency and headache, and became forgetful. These were the only cases of unmistakable hypothyroidism he encountered although he had many cases of postinfluenzal nervous and mental disturbances, neuritis, meningitis and meningeal reactions, chorea, mild or paralytic, and psychoses. In one of the hypothyroidism cases, under thyroid treatment the somnolency improved at once, the headache disappeared by the third day and the memory returned to normal the fourth or fifth day. In the second case the headache yielded to the thyroid treatment but the somnolency and the impairment of the memory persisted for over three weeks when last seen; the ultimate outcome is not known. In conclusion Albo remarks that influenza may sometimes have the opposite effect, exaggerating the functioning of the thyroid and entailing symptoms of exophthalmic goiter, especially in persons with simple goiter or otherwise predisposed.

Periosteum Implants.—Carmona has continued his experiments with auto-implants of periosteum in dogs, and reports that microscopic sections later confirmed the positive results. The auto-implants of bone alone showed no signs of ossification. It is evident that bone deprived of its periosteum cannot be expected to regenerate, while the periosteum alone can be depended on for this unless the tissues are too old.

Revista Cubana de Obstetricia y Ginecologia, Havana

March, 1919, **1**, No. 3

*Missed Abortion. S. García Marruz.—p. 137.

Missed Abortion.—Marruz explains the case he reports saying that the fetus had committed suicide in a loop of its own umbilical cord. The uterus, after an ineffectual attempt to expel it, continued to tolerate the dead fetus. The size of the uterus persisted the same for three months, and investigation then revealed the entire ovum of about ten weeks' development loose in the vagina. He warns of the extreme discretion which circumstances may require in these cases of missed or delayed abortion, citing the Playfair case in which a verdict of $50,000 was rendered against the physician who mistook an old missed abortion for a comparatively recent process and told his wife of it.

Revista de Medicina y Cirugía, Havana

April 10, 1919, **24**, No. 7

*Case of Protracted Fever. M. de Villiers.—p. 183.
*Military Anthropometrics. A. MacDonald.—p. 191.

Protracted Fever.—De Villiers ascribes to influenza the stormy onset of the fever in the otherwise healthy girl of 12. Associated infections were probably responsible for the seven weeks' duration.

Military Anthropometry.—MacDonald's article deals with the measurements in the military of different countries, as affording especially data for identifying the dead.

April 25, 1919, **24**, No. 8

*Treatment of Urethrovesicovaginal Fistula. J. C. Pineda.—p. 211.
Transfusion of Blood. G. E. Aróstegui.—p. 213.

Urethrovesicovaginal Fistula.—Pineda reports the successful cure of a case with considerable destruction of the urethra. He reconstructed it out of a flap from the vagina, using the Duboue and the Ferguson-Braquehaye technic. He kept the retention catheter in place for twelve days.

Revista de Medicina y Cirugía Prácticas, Madrid

March 14, 1919, **122**, No. 1546

*The Celiac Plexus Reflex. M. Bañuelos.—p. 289.

The Celiac Plexus Reflex.—Bañuelos has continued his research on what he calls the celiocardiac reflex, and now states that pressure on the celiac plexus not only modifies the rhythm of the heart beat but influences the arterial pressure. The respiration rate and the pupils also feel the influence of this stimulation and likewise the tone of the peripheral vessels. The respiration is increased by five or ten inspirations per minute and the pupils dilate. The latter occurs more strikingly in persons of the sympathicotony type; with vagotony there is no appreciable dilatation. There is also a tendency to vasoconstriction of the capillaries in the face. Experiments on three dogs with the carotid or femoral artery exposed for the purpose confirmed the clinical findings. The diagnostic significance of this reflex is most marked in the abnormal response to the stimulation of the celiac plexus in hyperchlorhydria, pylorospasm and gastric ulcer, and other affections in which vagotony is a factor. His experience with hundreds of subjects examined has demonstrated that this seems to be the most constant of the reflexes, throwing light on the functioning of the vegetative system and on pathologic states in the more important viscera.

May 7, 1919, **123**, No. 1553

Enormous Genital Papillomas. A. Ledo.—p. 149.
*Lumbar Puncture in Rural Practice. J. C. Jiménez.—p. 151.
*Pathologic Relations Between the Genital and the Urinary Apparatus in Women. M. Barragan.—p. 153. Com'd No. 1545, p. 257.

Lumbar Puncture in Rural Practice.—Jiménez deplores the way in which country physicians shrink from lumbar puncture, thus depriving themselves of this powerful aid in both diagnosis and treatment.

Pathologic Relations Between the Genital and the Urinary Apparatus in Women.—In this long article Barragan discusses the reflex action, the mechanical action and the influence of infection in one of these apparatus on the other. He warns in particular against the danger of injuring the bladder in laparotomies, especially when confronted with a tumor of vague outline. The bladder may be twisted and adherent to the tumor, and injection of a fluid into the bladder, to throw it into stronger relief, may be the only means to differentiate this organ. He says that he frequently is consulted by patients on account of bladder disturbances after hysterectomy, some of mechanical and some of infectious origin. In two cases described in detail the disturbances were due to concretions developing on scraps of silk suture material. One woman of 50 required lithotrity twice. In another case a concretion developed on a silk scrap and

was removed three years after the adherent bladder had been injured in removing an ovarian cyst. Normally there is a harmonious homogeneous symbiosis between mother and fetus —the toxins generated by the fetal metabolism being neutralized by the maternal defensive reactions. When this harmony is disturbed from any reason, pregnancy reactions follow from nausea to eclampsia, and the physician should be on the alert to detect this at the earliest possible moment so as to be able to reenforce the maternal defenses. Ambard's formula is a valuable guide for this. In a typical case mentioned, the coefficient was 0.128 but as the patient was put on a milk and vegetable diet for a month it dropped to 0.067, and all the symptoms of pregnancy toxemia subsided. In two apparently normal pregnant women at the third and fifth month the Ambard coefficient was 0.062 and 0.074.

Revista Medica del Uruguay, Montevideo

May, 1919, **21**, No. 5

*False Brain Tumor. L. Morquio.—p. 349.
Cervical Ribs; Two Cases. C. Pelfort.—p. 381.
*Origin of Asthma. J. A. Rampini.—p. 389.
False Migraine from Brain Tumor in Child. C. Stajano.—p. 407.

False Brain Tumor.—Summarized when practically the same article appeared elsewhere (The Journal, April 26, 1919, p. 1261).

Origin of Asthma.—Rampini read an article on this subject, "A New Conception of Asthma," at the Pan-American Congress of 1916. He here brings the subject down to date, citing additional testimony for the multiple causes of asthma, toxic, infectious or reflex. Each case has to be studied to learn the special factors involved. Treatment may require measures addressed to lesions remote from the air passages, as he describes in detail, enumerating among others cases of asthma for which lesions in the stomach, liver or bowel were responsible, or the heart, kidney or uterus. In conclusion he emphasizes the importance of tuberculosis in the etiology of asthma. He regards it as the most common cause, and Soca insists that tuberculosis is almost always to be incriminated. The old theory that tuberculosis and asthma are antagonistic is due to the fact that certain asthmatics seem to be refractory to tuberculosis because they have long been infected with it.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

March 29, 1919, **1**, No. 13

The Language of Medical Writings. H. A. Kluyver.—p. 969.
*What Do Unqualified Practitioners Accomplish? G. Van Rijnberk. —p. 973.
*Deficiencies in Public Health Service. C. H. Hermanides.—p. 990.
The Specialists and the National Medical Association. H. G. Hamaker. —p. 997.

What Do Unqualified Practitioners Actually Accomplish?—This official committee report is to be summarized elsewhere.

Deficiencies in Public Health Service. — Hermanides remarks that no one can inspect the reports of the Public Health Service without being amazed at the immensity of the work done, specialist work and consulting work. The laboratories, library and other equipment are at the free service of physicians in general, but few indeed ever think of applying to them, and the service loses a great deal by not keeping in closer touch with the practitioners throughout the country. He continues, "Typhus is appearing at various points, 350 victims at Rotterdam, for instance. The local authorities provided an emergency hospital, but there is no central organization or plan to rid the country of typhus which is now threatening disaster. Two weeks ago, by private initiative, I had the chance to see twenty-five typhus patients at a Rotterdam hospital. Why does not the Public Health Service make it possible for other physicians to get a chance to see this disease so they can recognize it when they encounter it? In dubious cases a consultant should be sent on demand, and physicians at large should be urged to make the demand promptly." . . . "No inspiration or encouragement is given to physicians or local authorities to start at once a delousing campaign, without waiting for typhus to get a foothold. The thousands of war prisoners released from Germany in such neglected conditions (*in verwaarloosden toestand*), passing through the Netherlands, are a constant menace which is not systematically combated."

Hospitalstidende, Copenhagen

April 30, 1919, **62**, No. 18

*Transient Myopia. K. K. K. Lundsgaard.—p. 545.
*Lateral Ventral Hernia. H. Møller.—p. 553.

Transient Myopia.—Lundsgaard reported in 1907 a case of suddenly developing myopia in a man of 40, previously and at the time apparently perfectly healthy. In three days vision returned to nearly normal, the increase of 8.5 dioptries having been corrected down to 0.5 D. Schieck reported not long after a similar but less pronounced case. No others were encountered until recently when Lundsgaard in rapid succession had five patients who presented myopia for the first time and only for a few days. Three of these patients had just or some time before recovered from influenza; two had a rather high sugar content in the blood, but there was no glycosuria. He has also encountered a case in which myopia developed in a man of 50 with high blood sugar content, but in this case the myopia seems to be permanent. In one of the cases astigmatism developed, with myopia in one eye after a contusion. Some change in the curve of the lens is probably responsible for the sudden and brief myopia, and he theorizes to explain the mechanism of this.

Lateral Ventral Hernia.—Møller reports two cases in adults. Fully 50 per cent. of the ventral hernias on record became incarcerated.

Hygiea, Stockholm

April 30, 1919, **81**, No. 8

*Incarcerated Diaphragm Hernia; Operation. E. Landelius.—p. 369.
Technic for Roentgen Treatment of Pruritus Ani. T. Sjögren.—p. 380. —p. 380.

Diaphragmatic Hernia.—Landelius reports the recovery of the youth under roentgen treatment. The hernia occurred during a vaulting contest. As he landed on his feet he experienced intense pain in the left lower chest, later involving the stomach region. The transpleural operation followed thirty-six hours after the incarceration. The defect in the diaphragm was evidently congenital.

Ugeskrift for Læger, Copenhagen

May 29, 1919, **81**, No. 22

Case of True Infantilism. J. Klein.—p. 899.
*Diphtheria in Children's Ward. A. H. Meyer.—p. 908.

June 5, 1919, **81**, No. 23

Can Rupture of a Corpus Luteum Entail Extensive Hemorrhage? C. D. Bartels.—p. 935.

Prophylaxis of Diphtheria in Children's Ward.—Meyer's remarks opened the discussion on this subject at a joint meeting of the Danish Pediatric and the Danish Epidemiologic societies. His tables show that there have been 28 cases of diphtheria develop in the children's ward at the Rigshospital since 1904 in a total of 2,400 child patients, and 4 cases among the attendants. During this period 14 bacilli carriers among the children were detected and isolated, and 13 among the attendants. Among 1,700 new arrivals he found and isolated 21 bacilli carriers. He takes smears from the throats of all new arrivals, and to the routine has recently added smears from the nose. He repeats the tests a week after admittance. His tables show a grouping of cases in some of the years that might easily have run into an epidemic, but this was checked at once. He keeps all new arrivals in a separate room with one or two beds for a few days before admitting them to the general room. He also makes a point of inspecting the throat and mouth, and recently includes the nose, inspecting each child thus daily, and regards this as very important for the detection of acute infectious diseases in their incipiency. During the last nine years he has refrained systematically from preventive injections of antitoxin in the service, fearing phenomena of anaphylaxis later; but he makes a point of taking smears from all the patients and attendants when a sporadic case of diphtheria develops. This general smear taking is repeated and the ward kept closed until it is free of carriers again.